PHILIPS

Healthcare

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Pre-Order Site Preparation Support Document

The equipment components shown in this drawing package are based on the current proposed equipment configuration and are subject to change if modifications are made to the configuration at the time of final equipment purchase.

Revision History

Note for Architects and/or Contractors: If revisions are listed, these drawings must be thoroughly reviewed so that all changes can be incorporated into your project

Rev.	Date	Revision Descriptions	By
A	9/29/2014	AL/A1: Added ceiling boom layout per CAD from project manager.	LP
B	10/14/2014	Created Pre-Order Site Preparation Support Document. Added "IVUS", "UPS", and "MED". Located video boxes per PM request.	LP
C	12/3/2014	Updated equipment per quote 1-16G1TGR Rev. 1. Changed "UPS" configuration to include "UTS" and "BC". Updated control/equipment areas and layouts per PDF from PM. Customer's physio, "UPS", and "BC" locations to be determined.	LP

Table of Contents

PHILIPS

Project
Allura FD20 FlexMove Maquet

VA Hospital
Little Rock, AR
-2F-206

Philips Contacts
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Drawn By: Laura Phillips

Project Details
Drawing Number
N-SOU140539 C
Date Drawn: 12/3/2014
Quote: 1-16G1TGR Rev. 1
Order: None

C1

General Specifications

1. Responsibility
The customer shall be solely responsible, at its expense for preparation of site, including any required structural alterations. The site preparation shall be in accordance with plans and specifications provided by Philips. Compliance with all safety electrical and building codes relevant to the equipment and its installation is the sole responsibility of customer. The customer shall advise Philips of conditions at or near the site which could adversely affect the carrying out of the installation work and shall ensure that such conditions are corrected and that the site is fully prepared and available to Philips before the installation work is due to begin. The customer shall provide all necessary plumbing, carpentry work, or conduit wiring required to attach and install products ready for use.

2. Permits
Customer shall obtain all permits and licenses required by federal, state/provincial or local authorities in connection with the construction, installation and operation of the products and related rules, regulations, shall bear any expense in obtaining same or in complying with any ordinances and statutes.

3. Radiation Protection
The customer or his contractor, at his own expense, shall obtain the service of a licensed radiation physicist to specify radiation protection. (X-Ray Tube output 125 KVp max.)

4. Asbestos and Other Toxic Substances
Philips assumes no hazardous waste (i.e., PCB's in existing transformers) exists at the site. If any hazardous material is found, it shall be the sole responsibility of the customer to properly remove and dispose of this material at its expense. Any delays caused in the project for this special handling shall result in Philips time period for completion being extended by like period of time. Philips assumes that no asbestos material is involved in this project in any ceilings, walls or floors. If any asbestos material is found anywhere on the site, it shall be the customer's sole responsibility to properly remove and/or make safe this condition, at the customer's sole expense.

5. Labor
In the event local labor conditions make it impossible or undesirable to use Philips' regular employees for such installation and connection, such work shall be performed by laborers supplied by the customer, or by an independent contractor chosen by the customer at the customer's expense, and in such case, Philips agrees to furnish adequate engineering supervision for proper completion of the installation.

6. Schedule
The general contractor should provide Philips with a schedule of work to assist in the coordination of delivery of Philips supplied products which are to be installed by the contractor and delivery of the primary equipment.

7. Extended Installation or Turnkey Work by Philips
Any room preparation requirements for Philips equipment indicated on these drawings is the responsibility of the customer. If an extended installation or turnkey contract exists between Philips and the customer for room preparation work required by the equipment represented on these drawings, some of the responsibilities of the customer as depicted in these drawings may be assumed by Philips. In the event of a conflict between the work described in the turnkey contract workscope and these drawings, the turnkey contract workscope shall govern.

8. Infection Control and Interim Life Safety Measures
Compliance with all Infection Control and Interim Life Safety Measures shall be the sole responsibility of the customer. The customer shall provide all means and methods necessary for compliance with Infection Control (IC) and Interim Life Safety Measures (ILSM) in connection with the construction and installation/operation of the products shown herein and shall bear any expenses related to same.

(14.0)

Minimum Site Preparation Requirements

A smooth efficient installation is vital to Philips and their customers. Understanding what the minimum site preparation requirements are will help achieve this goal. The following list clearly defines the requirements which must be fulfilled before the installation can begin.

1. Walls to be painted or covered, baseboards installed, floors to be tiled and/or covered, ceiling shall have grid tiles and lighting fixtures installed and operational.

2. Doors and windows, especially radiation protection barriers, installed and finished with locksets operational.

3. All electrical convenience, conduit, raceway, knockouts, cable openings, chase nipples, and junction boxes installed and operational.

4. Incoming mains power operational and connected to room x-ray breaker.

5. 120V convenience outlets operational.

6. All support structure correctly installed. All channels, pipes, beams and/or other supporting devices should be level, parallel, and free of lateral or longitudinal movements.

7. All contractor supplied cables pulled and terminated.

8. A dust-free environment in and around the procedure room.

9. All HVAC (heating, ventilating and air conditioning) installed and operational as per specifications.

10. Architectural features such as computer floor, wood floor, casework, bulkheads, installed and finished. When technical cabinets are installed in a closet with doors, it is suggested that the customer install a temperature alarm in the event of an air conditional failure.

11. All plumbing installed and finished.

12. Philips does not install or connect developing tanks, automatic processors or associated equipment, built in illuminators, cassette pass boxes, loading benches and cabinets, lead protective screens, panels or lead glass window and frame. This is to be done by the customer/contractor.

13. Clear door openings for moving equipment into the building must be 42" (1067mm) W x 82" (2083mm) H min. 48" (1219mm) W x 82" (2083mm) H rec., Or larger contingent on an 8'-0" (2438mm) corridor width.

14. Countertop is 30" (765mm) for seated height and 36" (915mm) for standing height.

Note
Once Philips has moved equipment into the suite and started the installation, the contractor shall schedule his work around the Philips installation team on site. It is suggested that a telephone be provided in the room to receive telephone calls. This would alleviate facility staff from answering calls for Philips personnel.

Remote Service Diagnostics
Medical imaging equipment to be installed by Philips Medical is equipped with a service diagnostic feature which allows for remote and on site service diagnostics. To establish this feature, a RJ45 type ethernet 10/100/1000 Mbit network connector must be installed as shown on plan. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity. All cost with this feature are the responsibility of the customer.

(12.0)

HVAC Requirement for General Equipment Locations

Operation	
Temperature	50°F (10°C) to 86°F (30°C)
Temperature gradient	Max. 1°F / Minute (0.5°C / Minute)
Humidity (non-condensing) Humidity shall be stable within 10%	20% to 80%
Exam Room	*6483 BTU/hr
Equipment Room	*8189 BTU/hr
Control Room	*1706 BTU/hr

*Average heat emission during clinical use
Data applicable for basic system:
Large monitor + 4 x small monitor in Monitor Ceiling Suspension
1 workstation + 2 x small monitor in Control Room

Add 1706 BTU/hr for additional large monitor
Add 273 BTU/hr for additional small monitor
Add 1024 BTU/hr for additional workstation

Equipment's designed airflow is from bottom to top and front to back. Please design the air handling in the rack cabinet equipment area accordingly.

(14.0)

Electrical Requirements
Mains 40E Cabinet

Power Output:	100kW
Supply Configuration:	3 phase, identical 3 wire power and isolated unity ground with bonding conductor, delta (preferred) or wye
Nominal Line Voltage:	480 VAC, 60 Hz
Branch Power Requirement:	225 kVA
Circuit Breaker:	3 phase, Type D 125 A with long-time delay and shunt trip

(14.2)

Remote Control of Room Lighting

The control of customer lighting must incorporate an electrical isolation system such as demonstrated on Sheet ED3. Lighting scheme is the responsibility of the customer.

(12.0)

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AN

Equipment Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional item furnished by Philips

	Equipment Designation	Description	Weight (lbs)	Heat Load (btu/hr)	Detail Sheet
A	SP	Clea Stand FlexMove	4100	1706	AD2
A	MQT	Maquet Table	1053	102	AD2
A	ME	Certeray iX Generator Cabinet	320	2971	AD3
A	MP	Peripheral 40E Cabinet	441	2049	AD3
A	MA	Mains 40E Cabinet	826	5464	AD3
A	MB	Image 40E Cabinet	441	1877	AD3
A	CY	Viewing/Control	126	567	AD3
A	DB	Documentation Box - Mounted on Wheels (Final location to be coordinated with customer and/or local Philips Service)	176	0	AD4
A	ATY	Exam Room Auxiliary Box	7	1.7	AD4
A	TV1	58" LCD Monitor Suspension (To be mounted on third party boom)	603	1020	-
A	IH	Interventional Hardware	73	2424	AD4
A	VB1 ~	Video Connection Box	11	34	AD4
A	VB9	Video Connection Box	11	34	AD4
D	PSU	Stationary Transformer Unit	30	34	AD5
A	XPD	Xper Pedestal	7	0	AD5
A	IVUS	S5i Imaging System - Volcano IVUS Workstation	76	-	AD5
A	SV	S5i Imaging System - Volcano IVUS Junction Box (To be mounted on third party boom - Not shown)	-	-	AD5
G	MED	Medrad Arterion Injector on Pedestal	185	4095	AD5
D	UPS	UPS Cabinet - 25 kVA	998	11564	AD6
D	BC	Battery Cabinet - 25 kVA	880		AD6
D	UTS	Universal Transfer Switch	200	-	AD6
D	RSP	Remote Status Panel (for UPS)	12	50	AD6
D	SWC	Knife Switch	22	-	AD6
B	A	Equipment Boom with Shape Arm	-	-	-
B	B	LED Surgical Light and MCS Boom	-	-	-
B	C	LED Surgical Light and Anesthesia Boom	-	-	-
B	D	LED Surgical Light and Perfusion Boom	-	-	-
B	E	Lead Shield and MCS Boom	-	-	-
A	CX50	Integrated Ultrasound CX50	152	-	AD6
A	DBS	Dose Aware - Base Station	3.2	85	AD6
A	VSP	Control Room Video Splitter	-	-	AD6

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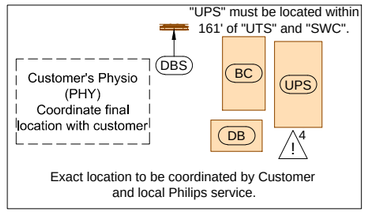
AL

Equipment Layout

Required Unistrut Height: 10' - 2 3/8", +0" / -3/8" (3110mm, +0mm / -10mm)
Unistrut Height measured from finished floor to bottom of Unistrut.

0 1' 2' 4' 8'
0 .5m 1m 2m



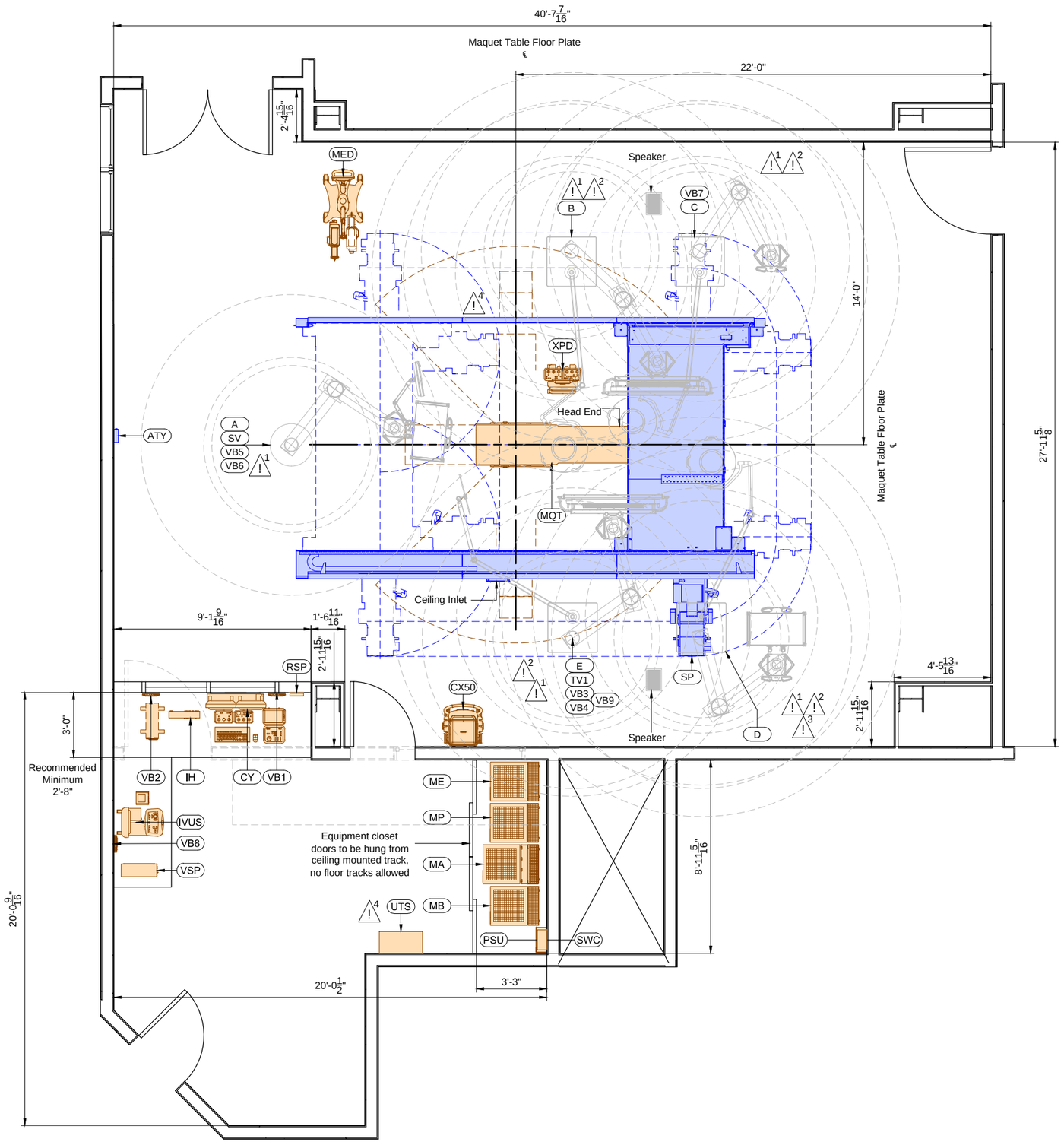
	Source	Location	Displayed
VB1	TBD	Control	FlexVision
VB2	IH	Control	FlexVision
VB3	TBD	Exam	FlexVision
VB4	TBD	Exam	FlexVision
VB5	TBD	Exam	FlexVision
VB6	TBD	Exam	FlexVision
VB7	Anesthesia	Exam	FlexVision
VB8	IVUS	Control	FlexVision

Planning Issues and Considerations

1. Third Party Items - It is the region's responsibility to interface and coordinate customer's non-catalog item(s) with Philips' equipment. Verify feasibility and ensure full functionality and movement of FlexMove system.
2. Location of Surgical Suspension(s)/Room Structure(s) will not permit the C-arm to fully rotate to its parked and standby positions. However, this will not affect the functionality of the equipment. Customer to notify end-users regarding safe operation and assumes responsibility for collisions and related consequences.
3. Ceiling boom "D" interferes with parking position shown on drawing. C-arm will need to be parked elsewhere.
4. Exact equipment configuration to be verified with local Philips Sales. Mavig Ceiling Track is listed on quote but not shown due to incompatibility with Allura FD20 FlexMove system. 25kVA UPS is not listed on quote but is shown due to Philips Project Manager request. Short or standard L-arm is not specified on quote but standard L-arm is shown.

General Notes

* Counters and cabinetry shown to be supplied and installed by contractor.
* Architect to coordinate with end users/technicians to determine final placement of control desk components prior to installation in order to avoid rework. Architect to coordinate with Philips Project Manager to reflect final placement on Philips drawings.
* Field to verify all room dimensions.



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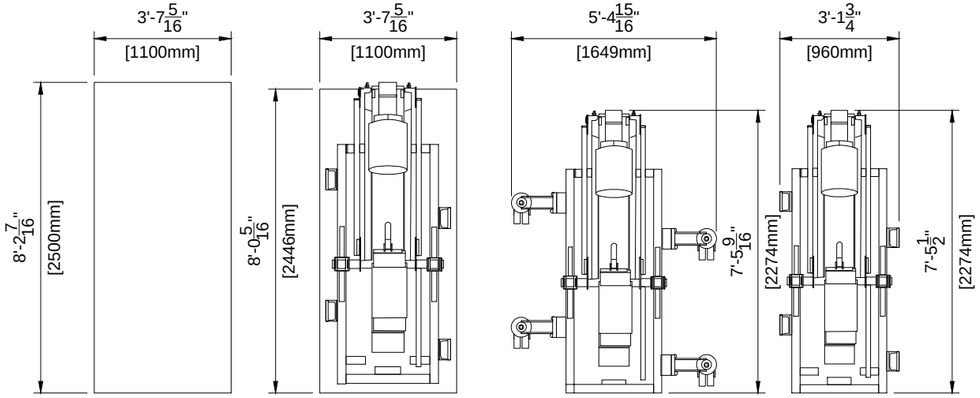
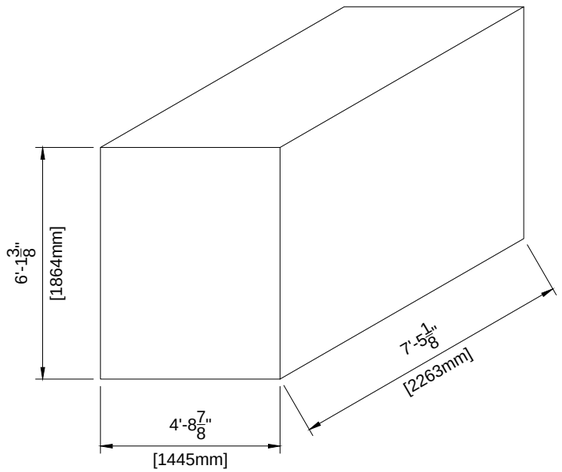
A1

Detail - Clea Ceiling (C-ARM) Transport Details



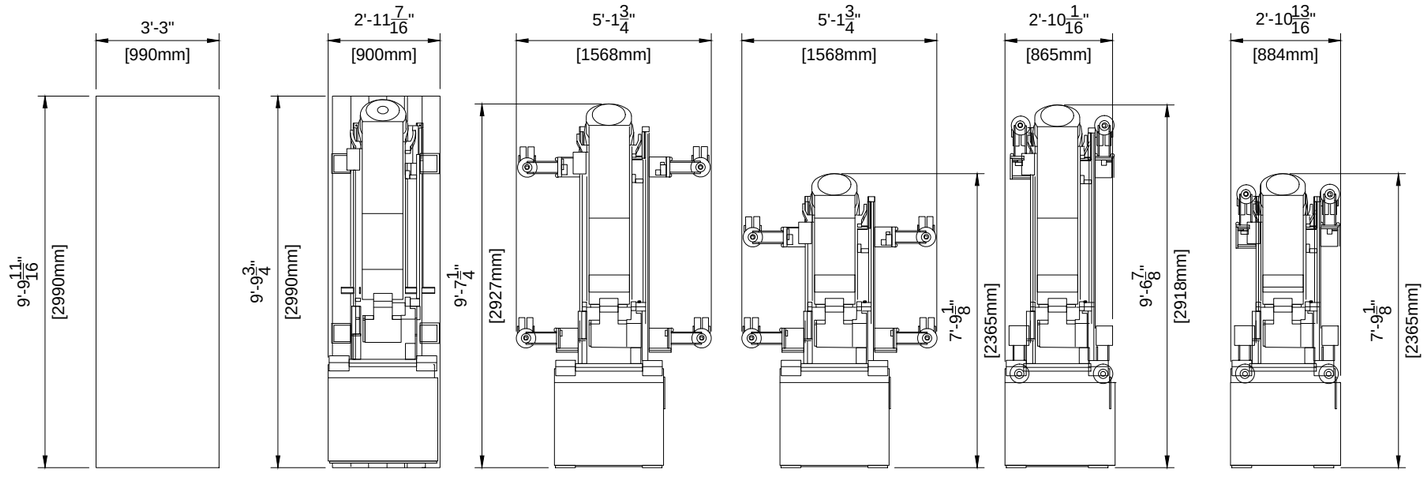
Transport Possibilities				
	Crate	**Pallet**	**Kick Wheels Wide**	**Kick Wheels Small**
Height	77.95" (1980mm)	76.22" (1936mm)	69.02" (1753mm)	77.76" (1975mm)
Weight	2050 lbs (930 kg)	1940 lbs (880 kg)	2061 lbs (935 kg)	1764 lbs (800 kg)

Detail - FlexMove Transport Details



Details	
	Crate
Length	89.10" (2263mm)
Width	56.9" (1145mm), Minimal 33.8" (860mm)
Height	73.4" (1865mm)
Weight	2050 lbs (930 kg)

Detail - Clea Ceiling (L-ARM) Transport Details



Transport Possibilities						
	Crate	**Pallet**	**Klick Wheels Wide**	**Klick Wheels Wide Elevator**	**Klick Wheels Small**	**Klick Wheels Small Elevator**
Height	57.09" (1450mm)	54.80" (1392mm)	49.25" (1251mm)	79.53" (2020mm)	49.25" (1251mm)	79.53" (2020mm)
Weight	2094 lbs (950 kg)	1973 lbs (895 kg)	1896 lbs (860 kg)	1896 lbs (860 kg)	1896 lbs (860 kg)	1896 lbs (860 kg)

(12.0)

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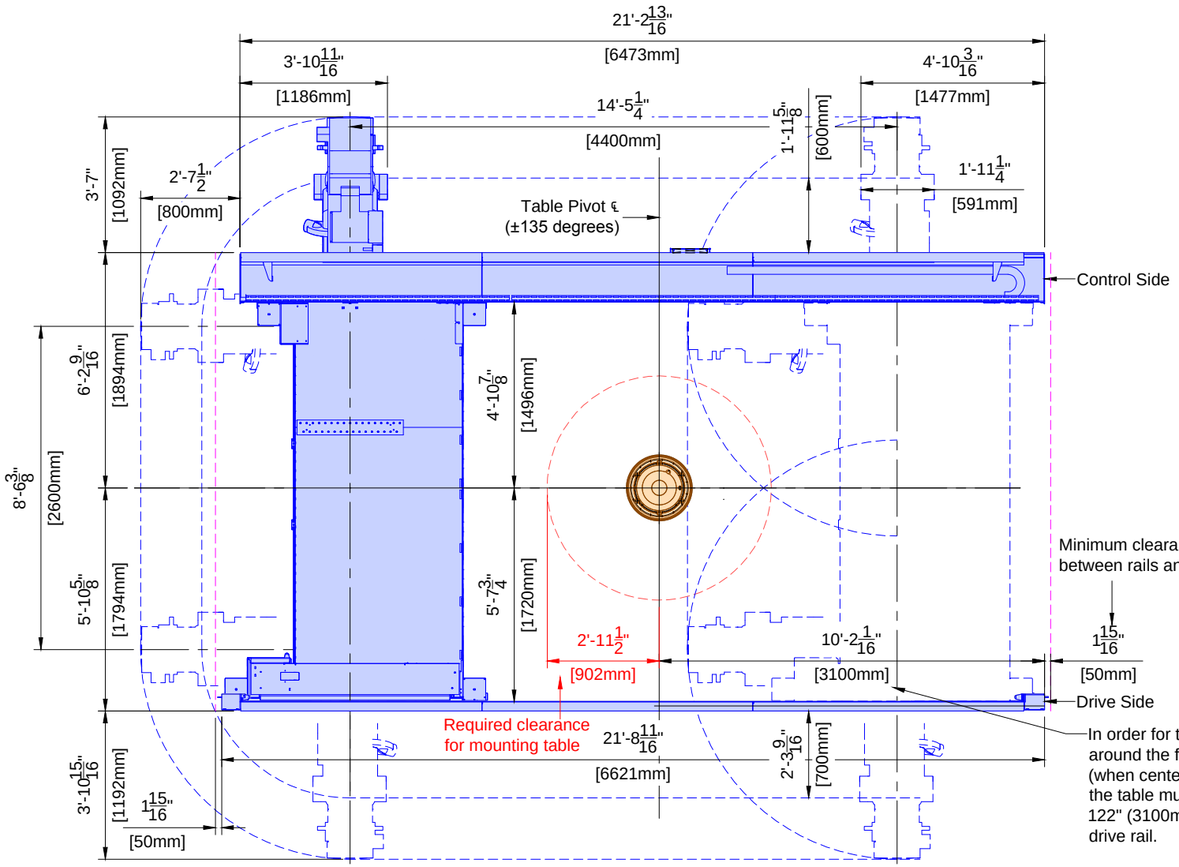
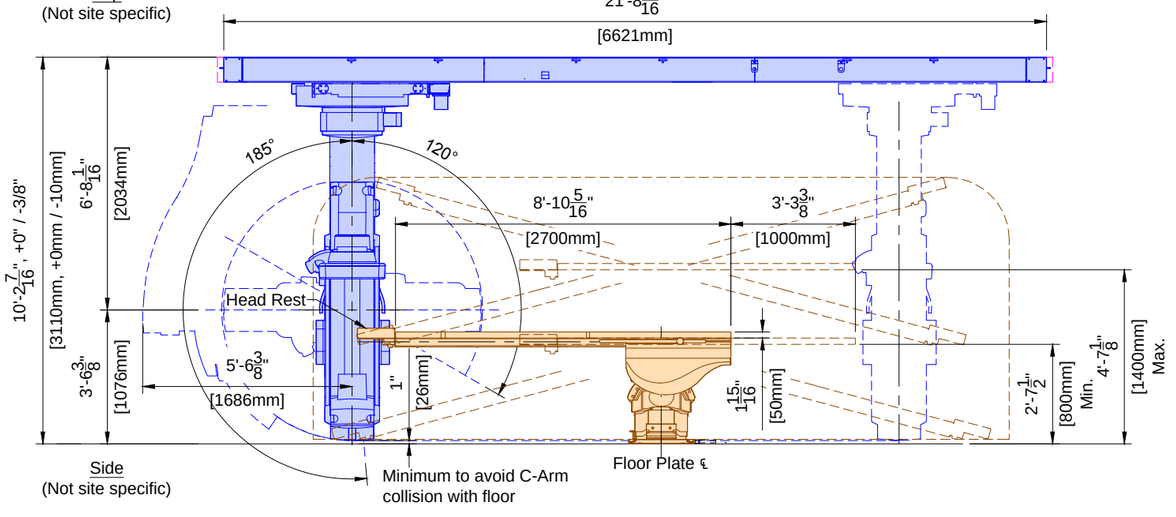
AD1

8.20.14



Top
(Not site specific)



Side
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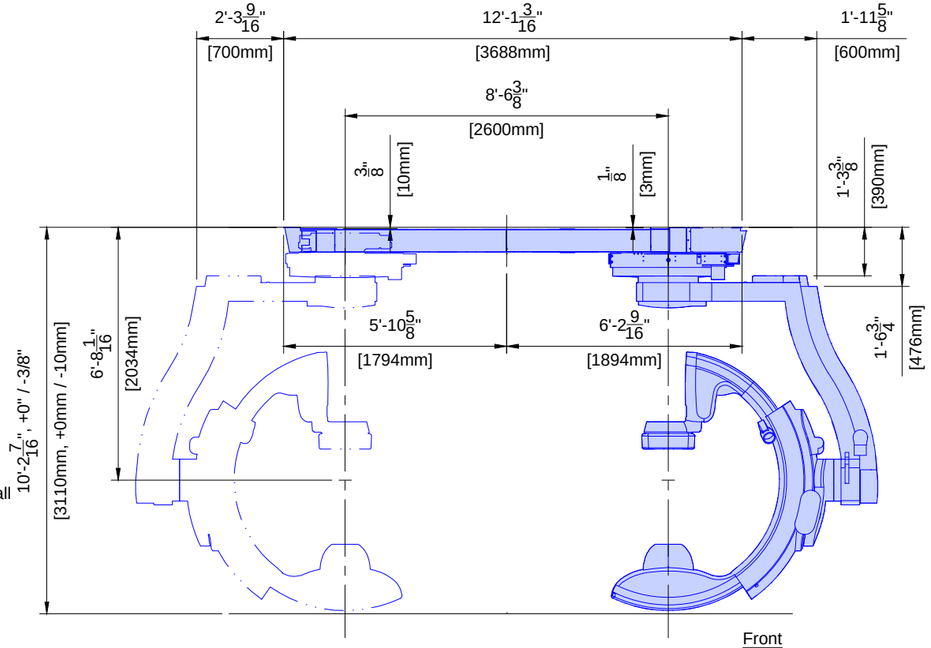
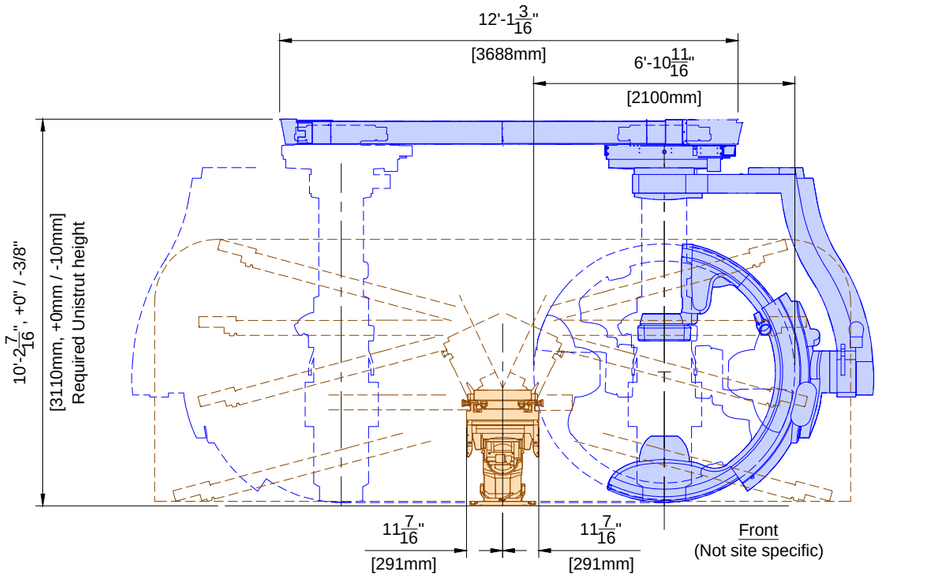


Front
(Not site specific)



Front
(Not site specific)

(13.0)

SP	Clea Stand FlexMove	
	Weight	Heat Dissipation
	4100 lbs	1706 btu/hr

Indicates equipment movement

(13.0)

MQT	Maquet Table	
	Weight	Heat Dissipation
	1053 lbs	102 btu/hr

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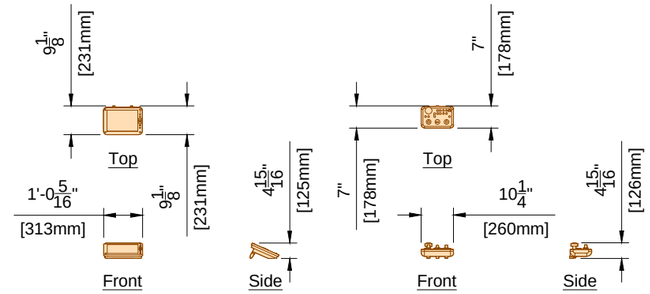
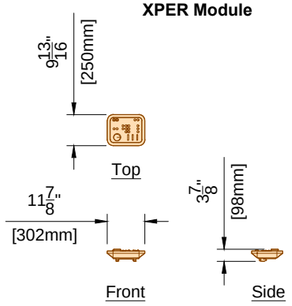
AD2

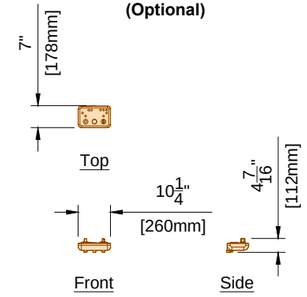


XPER Module

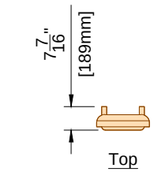
Geometry T.S.O. (Optional)

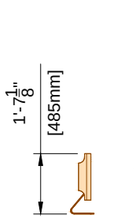


Review Module

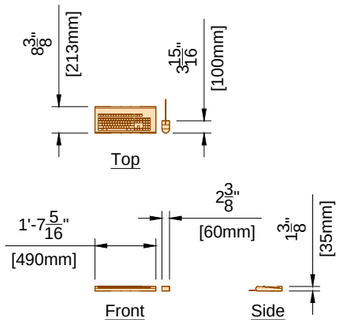


Imaging Cardio T.S.O. (Optional)

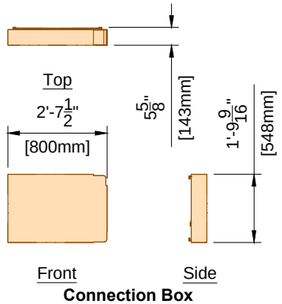




LCD Monitor



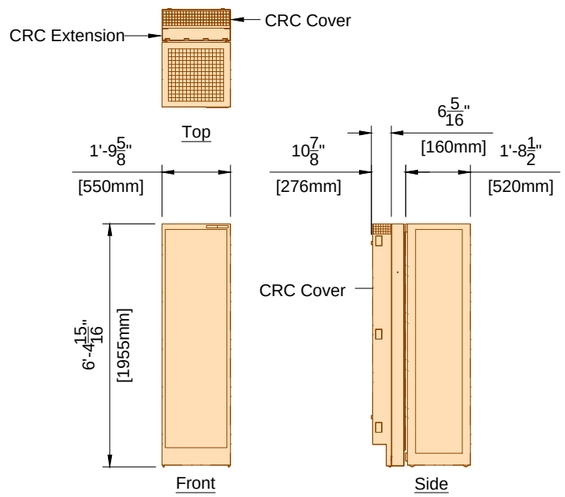
Keyboard / Mouse



Connection Box
(See SD3 for mounting options)

(12.0)

	View/Control (All Components)	
CY	Weight	Heat Dissipation
	126 lbs	567 btu/hr



The CRC Cover must be attached to the the wall box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(14.0)

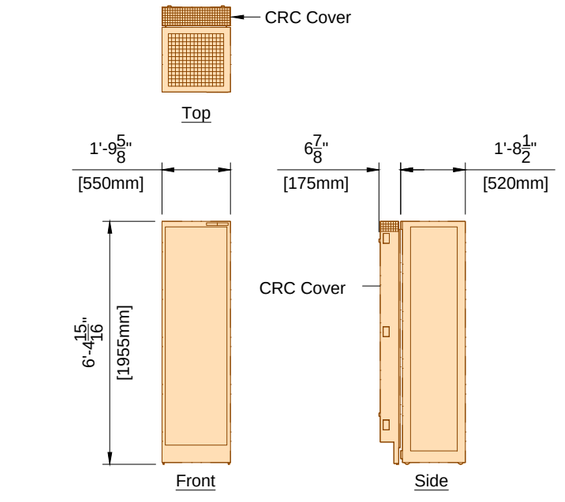
	Mains 40E Cabinet	
MA	Weight	Heat Dissipation
	826 lbs	5464 btu/hr

The CRC Cover must be attached to the the wall box.

Acoustic noise level: <= 48 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(14.0)

	Image 40E Cabinet	
MB	Weight	Heat Dissipation
	441 lbs	1877 btu/hr



The CRC Cover must be attached to the the wall box.

Acoustic noise level: <= 65 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(14.0)

	Peripheral 40E Cabinet	
MP	Weight	Heat Dissipation
	441 lbs	2049 btu/hr

The CRC Cover must be attached to the the wall box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(14.0)

	Certeray iX Generator 40E Cabinet	
ME	Weight	Heat Dissipation
	320 lbs	2971 btu/hr

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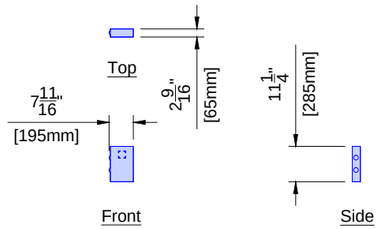
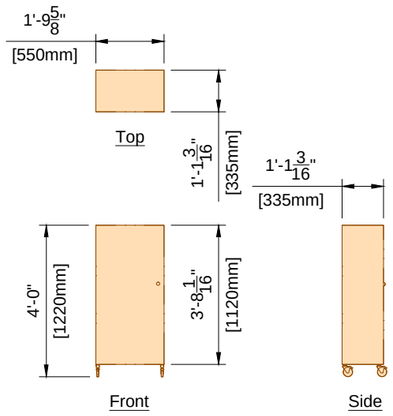
AD3



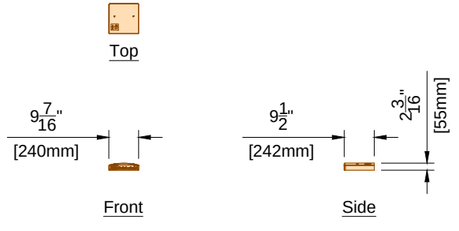
(12.0)

ATY	Auxiliary Box	
	Weight	Heat Dissipation
	7 lbs	1.7 btu/hr



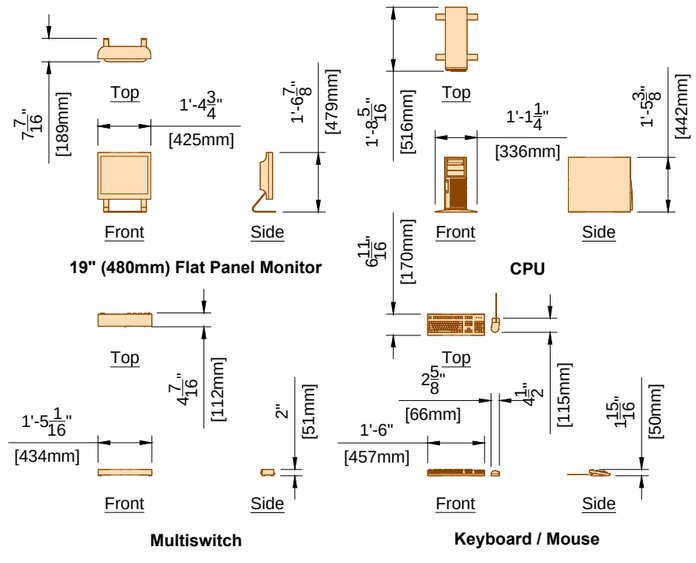
(12.0)

DB	Documentation Box	
	Weight	Heat Dissipation
	176 lbs	0 btu/hr



(13.0)

VB1 ~ VB9	Video Connection Box	
	Weight	Heat Dissipation
	11 lbs	34 btu/hr



Weight shown is for all components.

(12.0)

IH	Interventional Hardware	
	Weight	Heat Dissipation
	73 lbs	2424 btu/hr

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Project
Allura FD20 FlexMove Maquet

VA Hospital
Little Rock, AR
-2F-206

Philips Contacts
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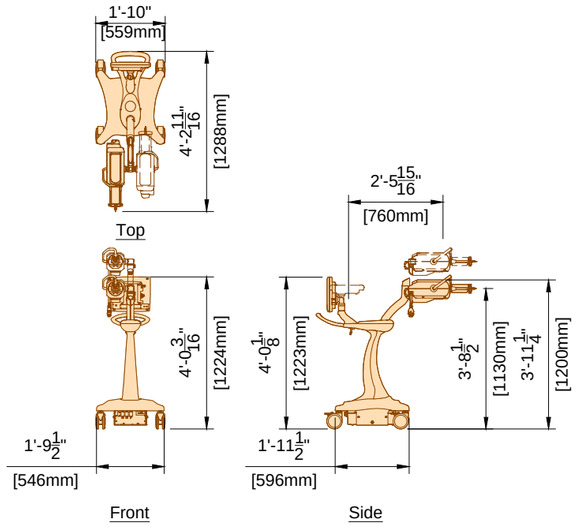
Drawn By: Laura Phillips

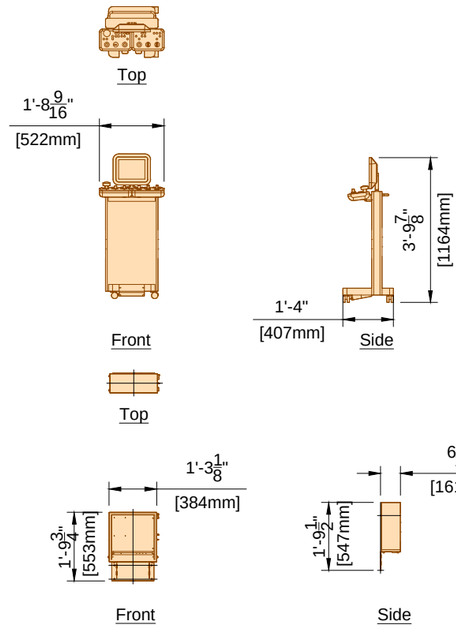
Project Details
Drawing Number
N-SOU140539 C
Date Drawn: 12/3/2014
Quote: 1-16G1TGR Rev. 1
Order: None

AD4



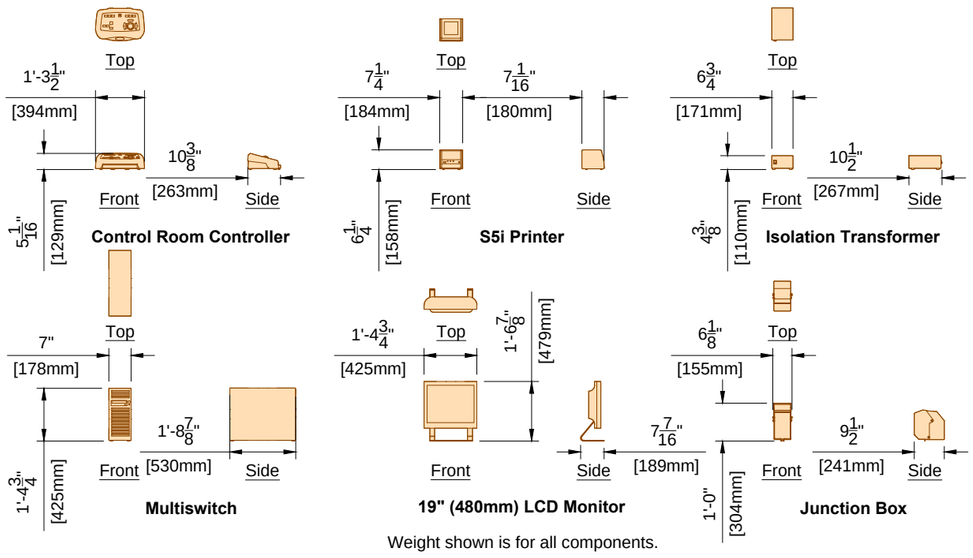
(12.0)

MED	Medrad Arterion Injector on Pedestal	
	Weight	Heat Dissipation
	185 lbs	4095 btu/hr



(12.0)

XPD	Xper Pedestal	
	Weight	Heat Dissipation
	7 lbs	0 btu/hr



Weight shown is for all components.

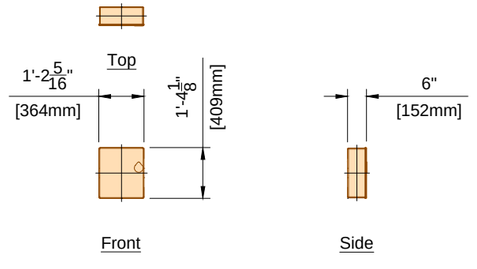
(12.0)

IVUS	S5i Imaging System - Workstation	
	Weight	Heat Dissipation
	76 lbs	- btu/hr

(12.0)

SV	S5i Imaging System - Junction Box	
	Weight	Heat Dissipation
	- lbs	- btu/hr

F3



(12.0)

PSU	Stationary Transformer Unit	
	Weight	Heat Dissipation
	30 lbs	34 btu/hr

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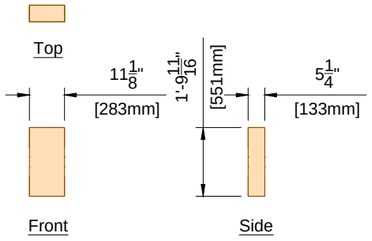
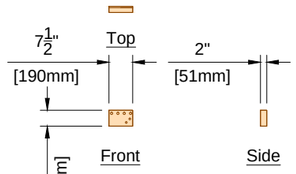
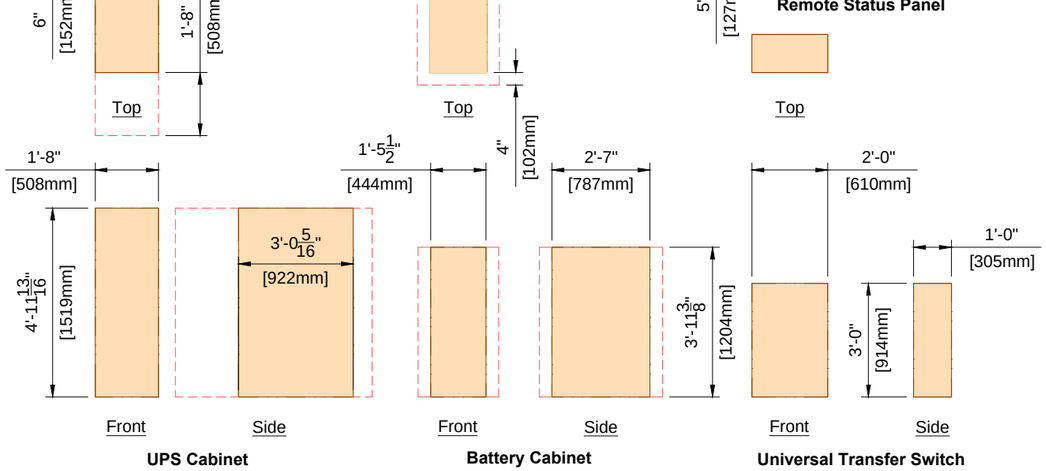
AD5



Knife Switch



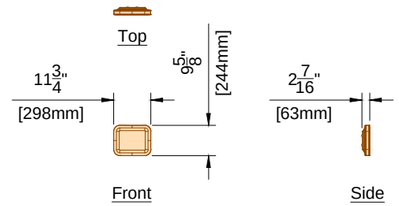
Remote Status Panel



UPS Cabinet **Battery Cabinet** **Universal Transfer Switch**

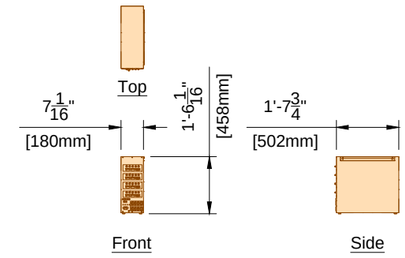
(14.0)

	25 kVA UPS	
	Weight	Heat Dissipation
UPS	998 lbs	11564 btu/hr
BC	880 lbs	
UTS	200 lbs	-
RSP	12 lbs	50 btu/hr
SWC	22	- btu/hr



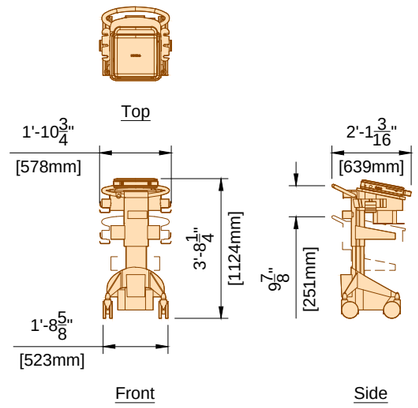
(12.0)

	Dose Aware - Base Station	
	Weight	Heat Dissipation
DBS	3.2 lbs	85 btu/hr



(12.0)

	Control Room Video Splitter	
	Weight	Heat Dissipation
VSP	- lbs	- btu/hr



(12.0)

	Integrated Ultrasound CX50	
	Weight	Heat Dissipation
CX50	152 lbs	- btu/hr

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Order: None

AD6

Equipment Support Information

1. General
The customer shall be solely responsible, at its expense, for preparation of the site, including any required structural alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and building codes. The customer shall be solely responsible for obtaining all construction permits from jurisdictional authority.

2. Equipment Anchorage
Philips provides, with this plan and specifications, information relative to equipment size, weight, shape, anchoring hole locations and forces which may be exerted on anchoring fasteners. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of equipment anchoring to floors, wall and/or ceiling of the building. Any anchorage test required by local authority shall be the customer's responsibility. Stud type anchor bolts should not be specified as they hinder equipment removal for service. Consult with Philips service prior to specifying anchor methods. Philips equipment must be electrically isolated from anchorage.

3. Floor Loading and Surface
Philips provides, with this plan and specifications, information relative to size, weight and shape of floor mounted equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings confirmation of the structural adequacy of the floor upon which the equipment will be placed. Any load test required by local authority, shall be the customer's responsibility.
The floor surface upon which Philips equipment is to be placed/anchored shall be flat and level to within plus or minus $\frac{1}{16}$" (2mm) over a length of 39" (1m).

4. Ceiling Support Apparatus
a. Philips provides, with this plan and specifications, information relative to size, weight and shape of ceiling supported equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of structural support apparatus, fasteners and anchorage to which Philips will attach equipment. Any anchorage and/or load test required by local authority shall be the customer's responsibility. Philips equipment must be electrically isolated from anchorage.

b. Contractor to clearly mark Philips equipment longitudinal centerline on bottom of each structural support.

c. The structural support apparatus surface to which Philips equipment is to be attached, shall have horizontal equipment attachment surfaces parallel, square and level to within plus or minus $\frac{1}{16}$" (2mm) per entire span.

d. Any drilling and/or tapping of holes required to attach Philips equipment to the structural support apparatus shall be the responsibility of the customer.

e. Fasteners/anchors (i.e., bolts, spring nuts, lock and flat washers) and strip closures shall be provided by the customer.

5. Lighting
Lighting fixtures shall be placed in such a position that they are not obscured by equipment or its movement, nor shall they interfere with Philips ceiling rails and equipment movement or otherwise adversely affect the equipment. Such lighting fixture locations shall be the sole responsibility of the customer.

6. Ceiling Obstructions
There shall be no obstructions that project below the finished ceiling in the area covered by ceiling suspended equipment travel.

7. Seismic Anchorage (For Seismic Zones Only)
All seismic anchorage hardware, including brackets, backing plates, bolts, etc., shall be supplied and installed by the customer/contractor unless otherwise specified within the support legend on this sheet. Installation of electronic cabinets to meet seismic anchorage requirements must be accomplished using flush mounted expansion type anchor/bolt systems to facilitate the removal of a cabinet for maintenance. Do not use threaded rod/adhesive anchor systems. Consult with Philips regarding any anchor system issues. Philips equipment must be electrically isolated from anchorage.

8. Floor Obstructions/ Floor Coverings
There shall be no obstructions on the floor (sliding door tracks, etc.) in front of the Philips technical cabinets. Floor must be clear to allow cabinets to be pulled away from the wall for service.
Contractor to verify with Philips the preferred floor covering installation method.

9. Safety Factors
In a worst case situation the dynamic bolt force of a floor or ceiling must be multiplied by factor 4. (static bolt force of the ceiling must be multiplied by factor 8). All safety factors are included in the bearing force values in sheet SD1.

10. Stiffness Requirements of Ceiling
Stiffness: 10,000,000 Newton/meter - 57.1 klb/in
Stiffness: 20,000,000 Newtonmeter/Rad - 177,014 (klb in)/Rad
The maximum deflection on the Philips rails must not exceed 0.04" (1mm) caused by the static load (weight) of the ceiling stand

11. Vibration
The maximal allowed external frequency that will not destroy the image quality of our equipment is:

a. 0 Hz till 20 Hz (frequency area of our equipment) - Displacement amplitude is smaller than 0.005mm
b. Greater than 20 Hz - Displacement amplitude is smaller than 0.01mm

(14.0)

PHILIPS

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Allura FD20 FlexMove Maquet

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Philips Contacts
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Drawn By: Laura Phillips

Project Details
Drawing Number
N-SOU140539 C
Date Drawn: 12/3/2014
Quote: 1-16G1TGR Rev. 1
Order: None

SN

See S1 for Floor & Wall Support Layout

Notes:

1. Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor.
2. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed in this document, the anchors shall be provided by customer/contractor and installed by Philips.
3. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

Floor & Wall Support Legend

A Furnished and installed/anchored by Philips (exceptions may exist, see Note 2)
B Furnished and installed by customer/contractor and installed/anchored by customer/contractor
C Installed/anchored by customer/contractor
D Furnished by Philips and installed/anchored by contractor
E Existing
F Future
G Optional

	Item Number	Description	Detail Sheet
B	F1	Support in wall for Control Room Connection Box (CY)	SD3
A	F1	Anchors in wall for Control Room Connection Box (CY)	SD3
A	F2	Maquet Table Floor Plate	SD1
A	F3	Maquet Table TSO (on ceiling boom "A" - not shown on plan)	-
C	F4	Anchors in wall for UTS	-
C	F5	Anchors in wall for SWC	-
C	F6	Anchors in wall for Dose Aware Base Station	SD4

See S2 for Ceiling Support Layout

Ceiling Support Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

	Item Number	Description	Detail Sheet
A	C1	2 - Philips Clea FlexMove Rails	SD1 SD2
B	C2	Unistrut (P1001 or equal) - Bottom of Unistrut 0" to $\frac{1}{4}$" (6mm) Below Finished Ceiling	SD2

PHILIPS

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Drawing Number
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Date Drawn: 12/3/2014
Quote: 1-16G1TGR Rev. 1
Order: None

SL

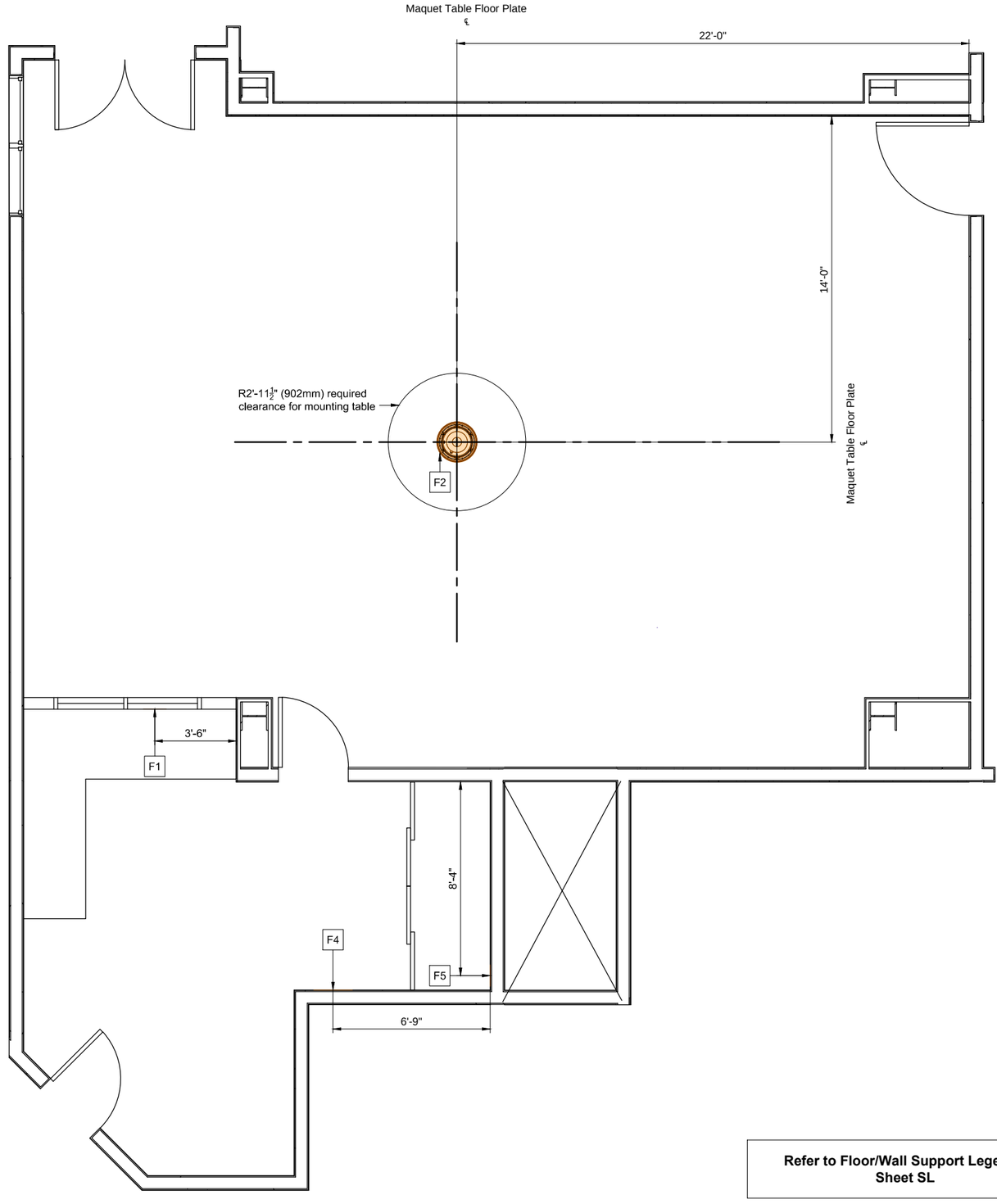
Floor & Wall Support Layout

Required Unistrut Height: 10' - 2 3/8", +0" / -3/8" (3110mm, +0mm / -10mm)
Unistrut Height measured from finished floor to bottom of Unistrut.

0 1' 2' 4' 8'
0 .5m 1m 2m

F6

Exact location to be coordinated by Customer and local Philips service.



Refer to Floor/Wall Support Legend - Sheet SL

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Project
Allura FD20 FlexMove Maquet

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-2F-206

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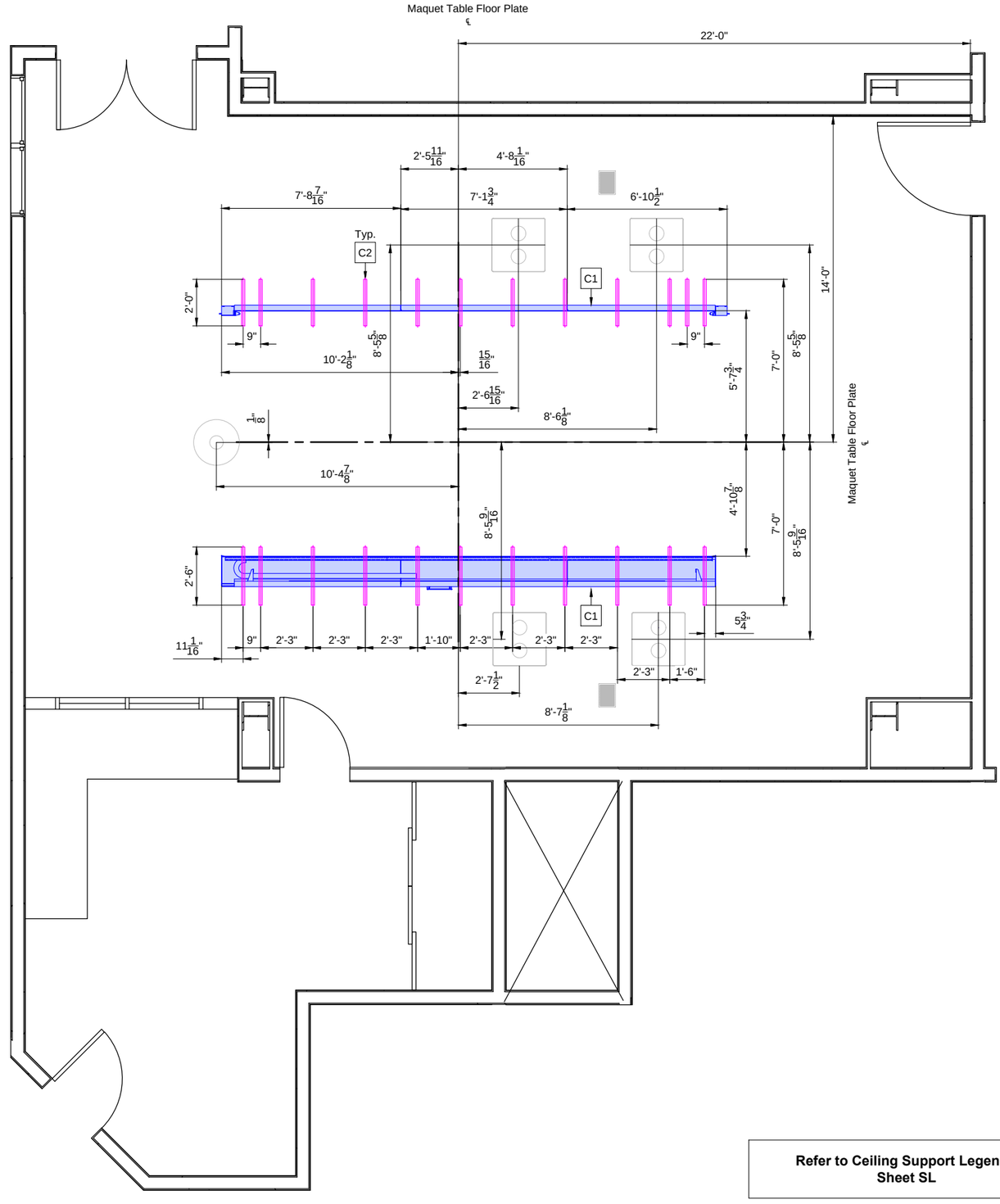
Order: None

S1

Ceiling Support Layout

Required Unistrut Height: 10' - 2 3/8", +0" / -3/8" (3110mm, +0mm / -10mm)
Unistrut Height measured from finished floor to bottom of Unistrut.

0 1' 2' 4' 8'
0 .5m 1m 2m



Refer to Ceiling Support Legend - Sheet SL

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Order: None

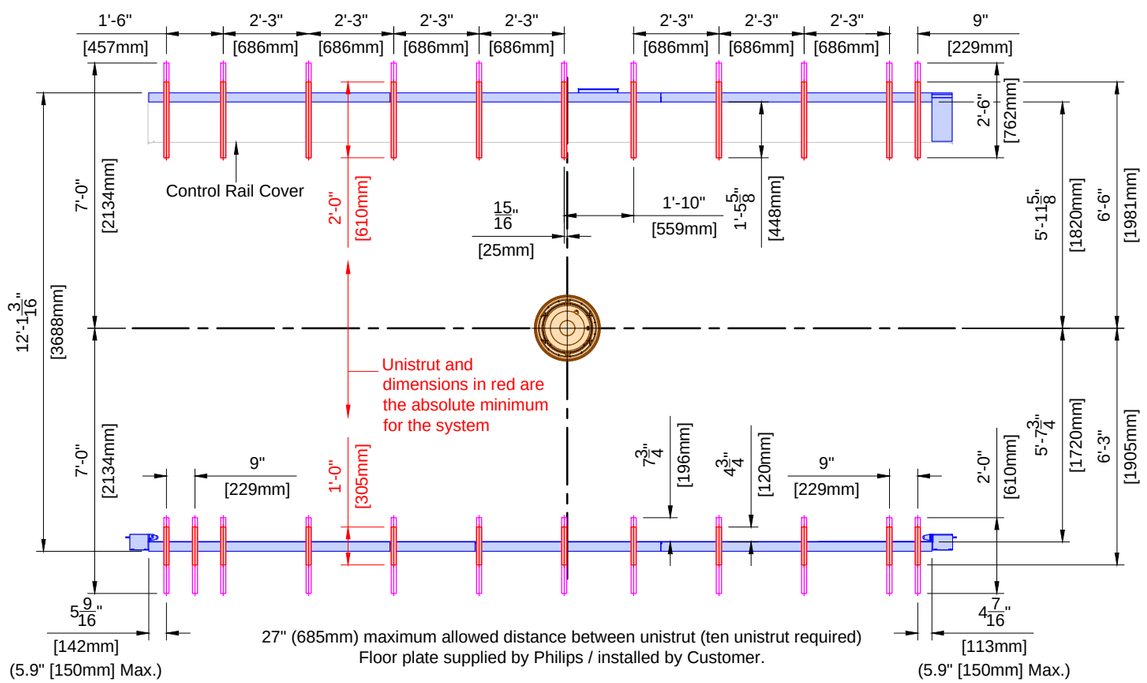
S2

8.20.14

THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

Detail - Structural Allura FD20 FlexMove

(Not site specific)



27" (685mm) maximum allowed distance between unistrut (ten unistrut required)
Floor plate supplied by Philips / installed by Customer.

Clea FlexMove
Clea FM Force:
(Tension) Tmax = 4131 lbs/fixing block (18374 N/fixing block)

Maquet Table
Floor Plate to Floor Bolt Forces:
(Tension) Tmax = 5620 lbs/bolt (25000 N/bolt)
Torque = max. 2286 ft lb (max. 3100 Nm)

Clea Seismic:
Center of Gravity (C.G.):
(Tension) Tmax = 3822 lbs/fixing block (16999 N/fixing block)
(Shear) Vmax = 3536 lbs/fixing block (15729 N/fixing block)

Note: The bearing force shown for the Clea is the maximum instantaneous equipment bearing load that can result from abusive use of the system. This force can occur at two locations simultaneously on the same Unistrut (or equal) rail. If seismic forces must be considered, please refer to the seismic calculation sheets provided by Philips for the specific system components.

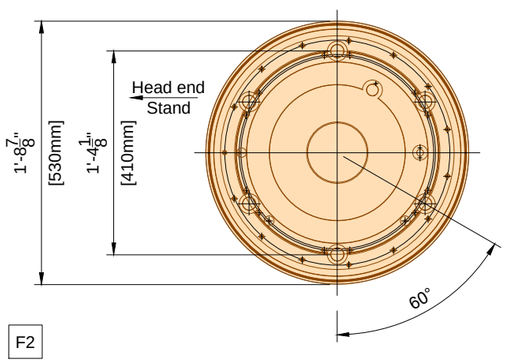
F2 C1

(14.0)

Detail - Maquet Floor Plate - Notes for Installation

(Not to scale)

1. 1.18" (30mm) thick floor plate, surface mounted with top of slab.
2. Level within 1/16" (1.5mm) across surface of plate.



F2

(14.0)

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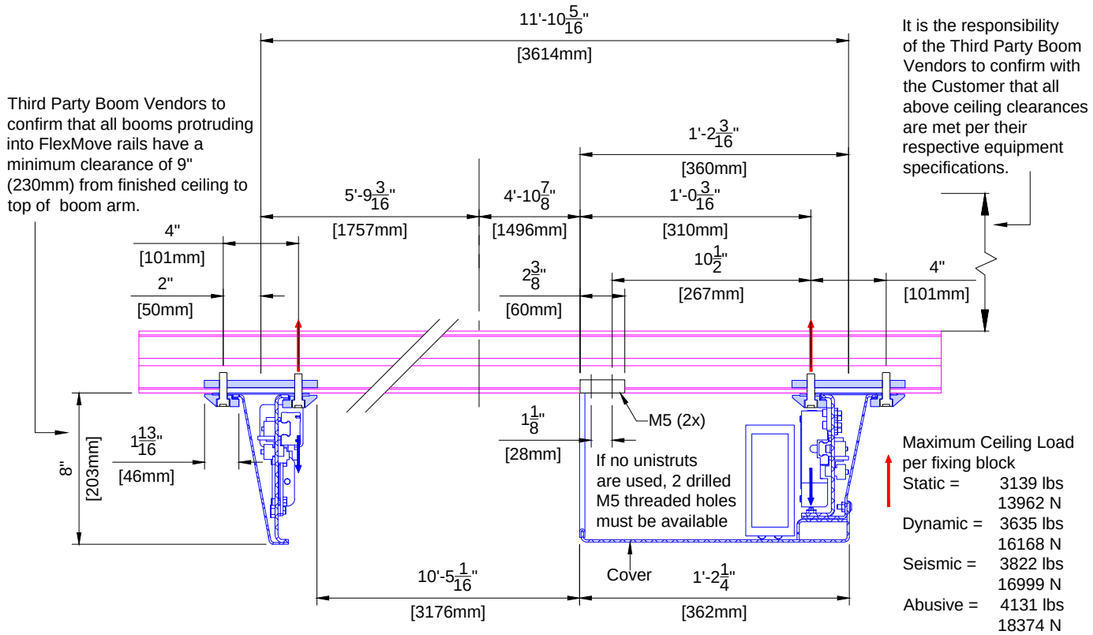
Order: None

SD1

Detail - FlexMove Rail Cross-Section

(Not to scale)



Maximum Ceiling Load per fixing block

Static = 3139 lbs
13962 N

Dynamic = 3635 lbs
16168 N

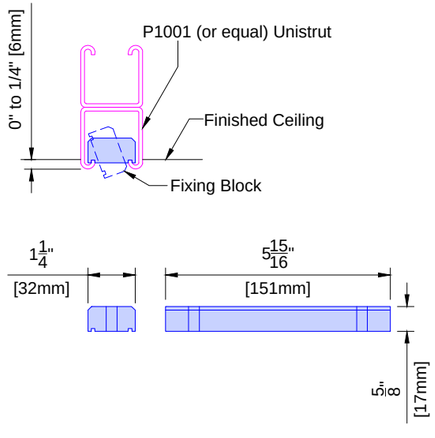
Seismic = 3822 lbs
16999 N

Abusive = 4131 lbs
18374 N

Bearing Load = Ceiling Load

Detail - Fixing Block for Philips Ceiling Rails (Clip Rails)

(Not to scale)



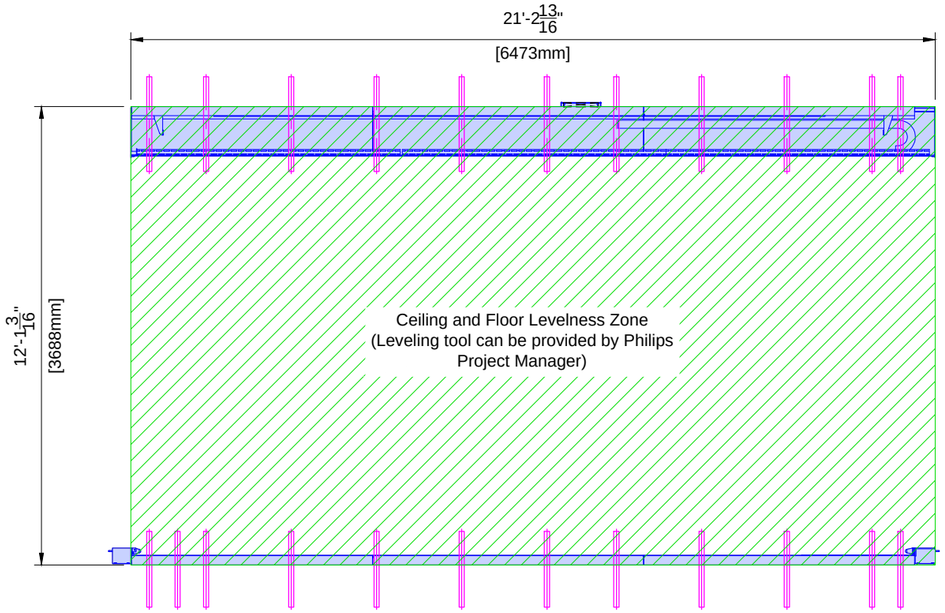
- Philips does not specify the overhead equipment support structure. Unistrut (or equal) may or may not be used. If Unistrut are used, it is up to Unistrut and the structural engineer for the project to determine which of its products are appropriate for each project.
- Finished ceiling must **NOT** be lower than the bottom of the Unistrut in order to prevent damage to the finished ceiling during the installation of clip rails. Finished ceiling height to be mounted 0" to 1/4" (6mm) above bottom of Unistrut.
- Nothing shall be attached to the Unistrut with any fastener that protrudes into the Unistrut which would interfere with positioning of the fixing block.
- Fixing blocks for Philips ceiling rails (Clip rails) are designed to be installed with a P1001 Unistrut type structure. Structural engineer to determine equipment support (ie P5000, P5001)
- The inside of the Unistrut must be clear of obstructions (including paint).
- Unistrut elements must be rigid and comply with the ceiling structure requirements. See SN sheet, line #4 "Ceiling Support Apparatus".
- Welding Unistrut may warp Unistrut and deteriorate the structural integrity of the Unistrut. Consult the Structural Engineer of Record prior to welding any Unistrut.

C1 C2

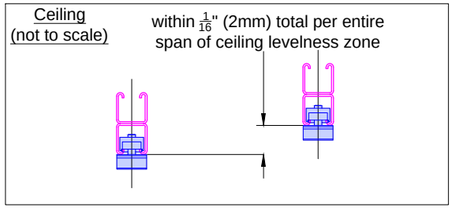
(14.0)

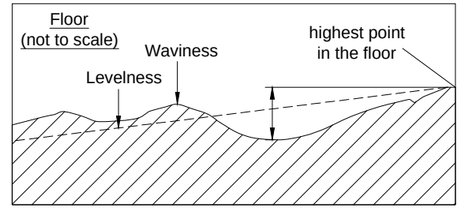
Detail - FlexMove Ceiling and Floor Levelness

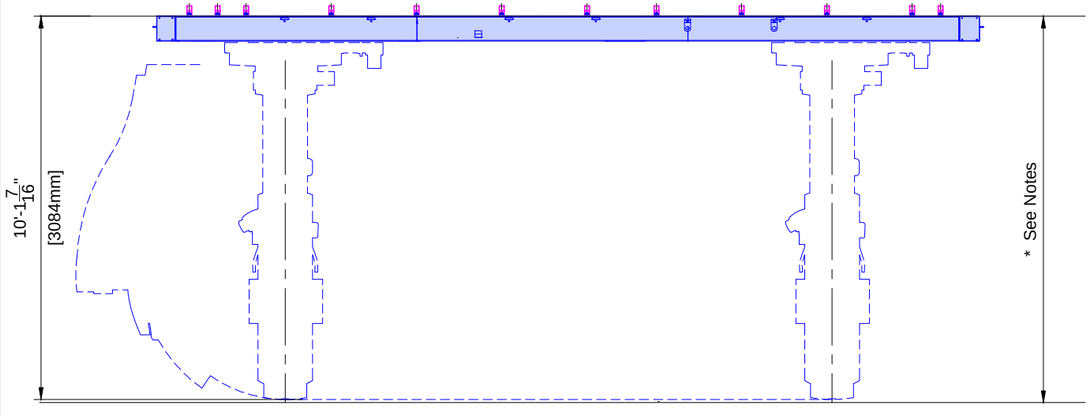
(Not site specific / Not to scale)



Notes:
* Ceiling height is measured from the finished floor (i.e. finished floor + padding + glue height) to the bottom of the unistrut.
* Set the unistrut off the high point in the floor (not the concrete).
* An absolute minimum of 2900mm (Short L-Arm) or 3100mm (Normal L-Arm) between the finished floor and the bottom of Unistrut is required at every point of the "Ceiling and Floor Levelness Zone."







(13.1)

PHILIPS

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SD2

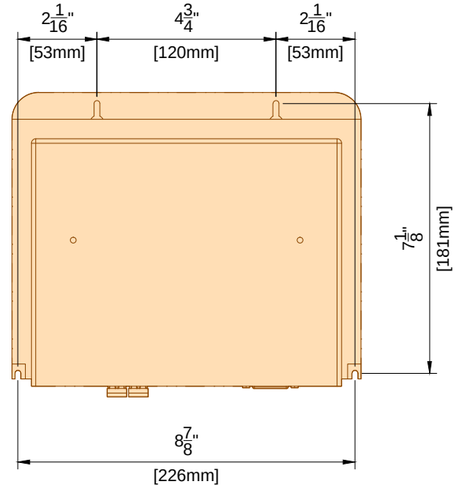
Pre-Evaluated and -Approved Anchor Reference List for Philips Installers

Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed below, the anchors shall be provided by customer/contractor and installed by Philips. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

Equipment	Option	Anchor Style (provided by Philips)	Anchor Size (provided by Philips)	Qty.	Support Size & Material (provided & installed by customer/contractor)
Mavig Ceiling Track	A	Bolts, flat washer, lock washer, spring nuts	A307 Grade or ASME Grade 5 Bolts: $\frac{3}{8}$" (10mm) x 2" (50mm) L Spring Nuts: $\frac{3}{8}$" (10mm)	8	Unistrut
Control Room Connection Box (IXR)	A	Round Phillips Head Self Drilling Screws	#10-16 x 1 $\frac{1}{2}$" (38mm) L	3	Drywall with minimum 20 gauge Steel backing
	B	SPAX Multipurpose flat head screw	#10 x 1 $\frac{1}{2}$" (38mm) L	3	Drywall with minimum 20 gauge Steel backing
	C	Toggler Snaptoggle and (round head screws)	#BA and (#10-24 x 2 $\frac{1}{2}$" (63.5mm) L)	3	Minimum $\frac{5}{8}$" (16mm) Drywall

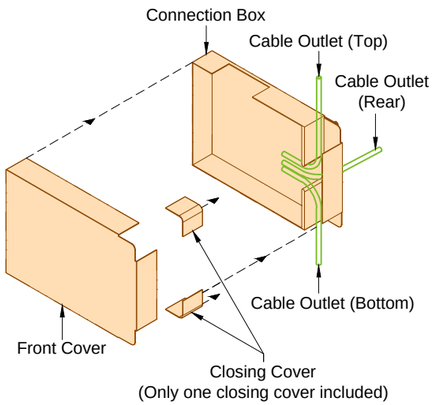
Detail - Video Connection Box - Hole Pattern for Mounting

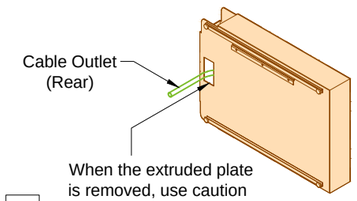
(Not to scale)



Detail - Connection Box - Cable Outlets

(Not to scale)

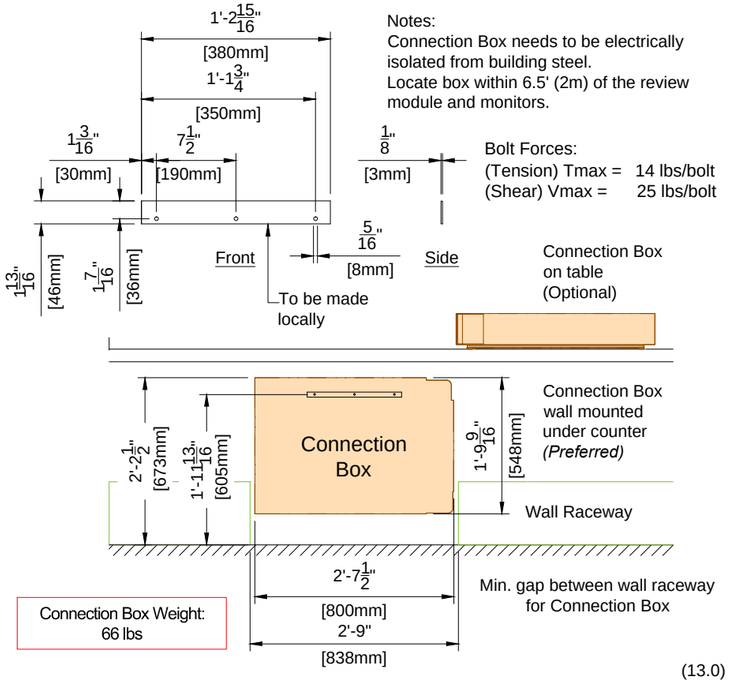




F1

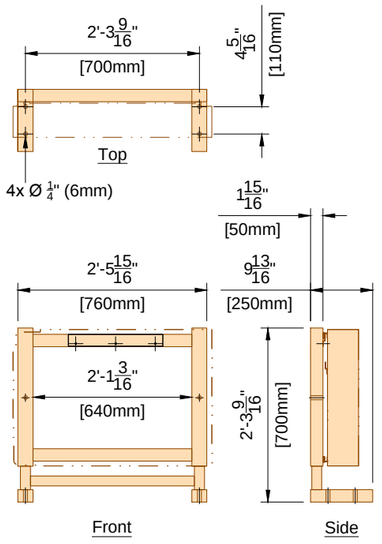
Detail - Connection Box - Wall Mount Template

(Not to scale)



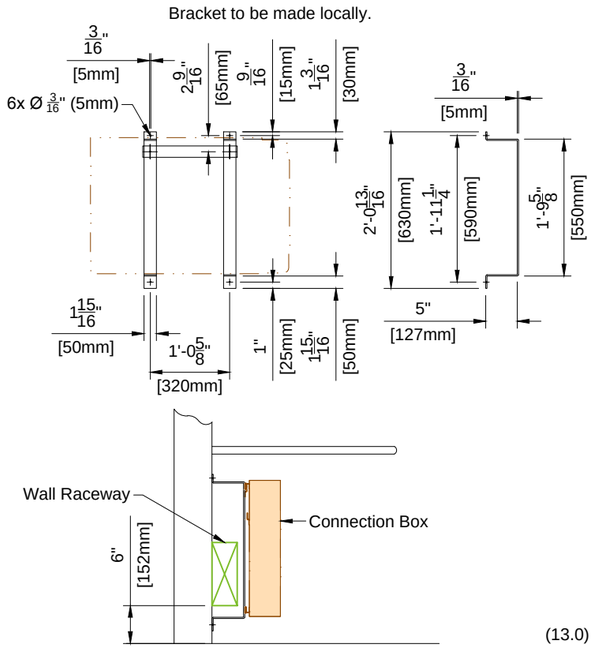
Detail - Connection Box Support Frame Option

(Not to scale)



Detail - Connection Box - Bracket Mount Option

(Not to scale)



PHILIPS

Project
Allura FD20 FlexMove Maquet

VA Hospital
Little Rock, AR
-2F-206

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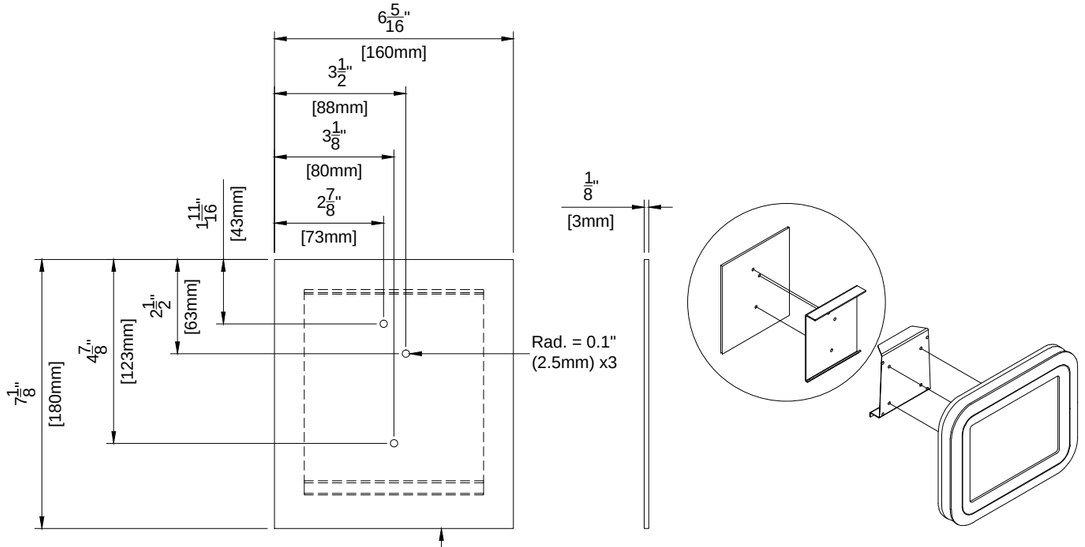
Drawn By: Laura Phillips

Project Details
Drawing Number
N-SOU140539 C
Date Drawn: 12/3/2014
Quote: 1-16G1TGR Rev. 1
Order: None

SD3

Detail - Dose Aware Base Station Template

(Not to scale)



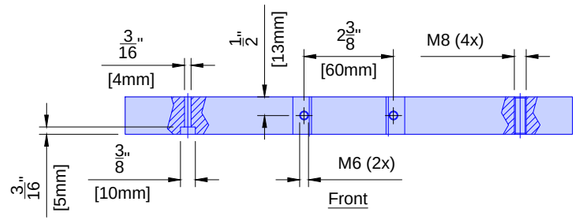
F6

To be made locally. Use template for drilling holes.

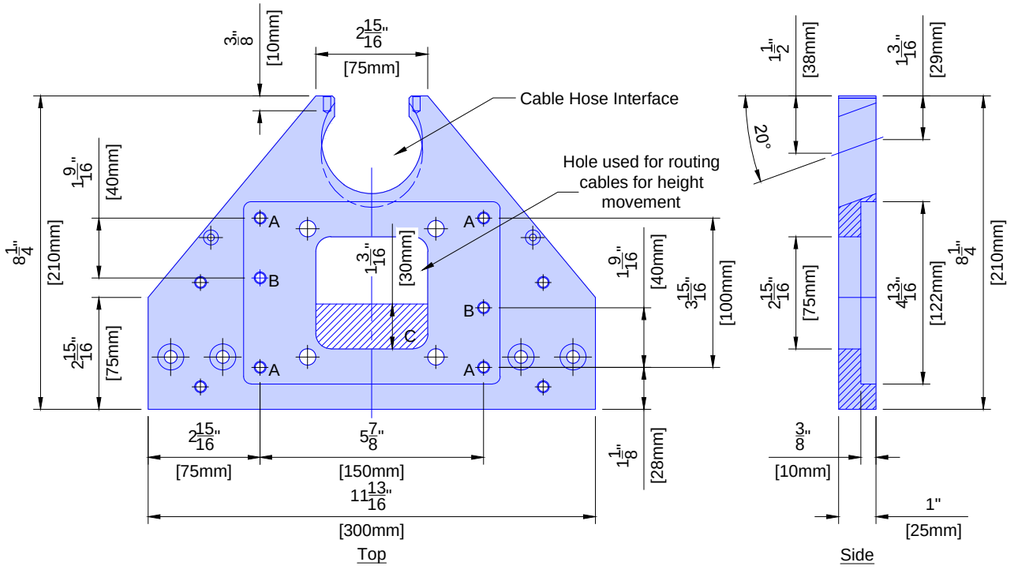
(12.0)

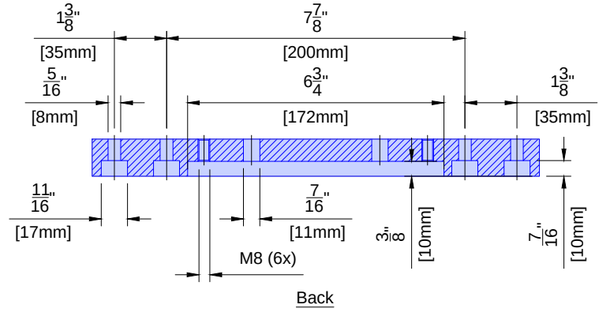
Detail - Interface Plate - No MCS with 58" FlexVision Monitor

(Not to scale)



Notes
A = Fixing holes for Adapter (suspension)
B = Fixing holes for safety catch
C = Blocked space





(13.0)

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SD4

Emergency Power

Philips does not require equipment to be on emergency power. If the customer deems it necessary for the equipment to be supplied with emergency power, the following specifications must be applied:

The Mains 40E cabinet feeding an Allura Xper system will have an absolute peak surge current of <380A.

The transfer switch must be double actuator type with a minimum time delay of 400 milliseconds in both directions (utility to emergency - emergency to utility). This time is required to allow filters to dissipate their stored energy before a different mains voltage is applied. Russelectric type RMTD, Asco Series 7000 delayed transition transfer switch or equivalent is recommended.

To reduce the emergency power generator load demand, Philips equipment can be put into a lower power mode of operation by the connection of a potential free closure from the transfer switch. This potential free, normally open contact, has to be rated for 24VDC/100mA. For Philips cardio/vascular Allura equipment, the two wires from this contact have to be routed to the equipment area and connected to the System Coordinator cabinet (MA).

(14.0)

Electrical Requirement Notes for Systems with Mains 40E Cabinet

Electrical power distribution at the facility shall comply with:

Utilization voltages per ANSI C84.1 - 1982 range A.

Voltage to be supplied is 3 phase, delta.

Phase conductors to be sized for instantaneous voltage drop per NEC 517 - 73 and Philips recommendations.

Metal conduit shall not be used as the equipment ground conductor.

The Philips system uses an isolated ground scheme grounding only the Allura system per clause 250.96B of the NEC. The raceway from the X-ray breaker (CB) to the Mains 40E Cabinet shall be supplemented by an internal insulated equipment grounding conductor installed in accordance with clause 250.146(D) of the NEC.

ANSI / NFPA 70 - National Electrical Code
Article 250 - Grounding
Article 517 - Healthcare Facilities
ANSI / NFPA 99 - Healthcare Facilities
NEMA standard XR9 - Power Supply Guideline for X-ray Machines

Power Quality Guidelines

1. Power supplied to medical imaging equipment must be separate from power feeds to air conditioning, elevators, outdoor lighting, and other frequently switched or motorized loads. Such loads can cause waveform distortion and voltage fluctuations that can hinder high quality imaging.

2. Equipment that utilizes the facility power system to transmit control signals (especially clock systems) may interfere with medical imaging equipment, thus requiring special filtering.

3. The following devices provide a high impedance, nonlinear voltage source, which may affect image quality:

Static UPS systems, Series filters, Power conditioners, and Voltage regulators.

Do not install such devices at the mains supply to medical imaging equipment without consulting Philips installation or service personnel.

4. Line impedance is the combined resistance and inductance of the electrical system and includes the impedance of the power source, the facility distribution system, and all phase conductors between the source and the imaging equipment. Philips publishes recommended conductor sizes based on equipment power requirements, acceptable voltage drops, and assumptions about the facility source impedance. The minimum conductor size is based on the total line impedance and NEC requirements. Unless impedance calculations are performed by an electrical engineer, the recommended values must be used.

(14.0)

General Electrical Information

1. General
The customer shall be solely responsible, at its expense, for preparation of the site, including any required electrical alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and electrical codes, the customer shall be solely responsible for obtaining all electrical permits from jurisdictional authority.

2. Materials and Labor
The customer shall be solely responsible, at its expense, to provide and install all electrical ducts, boxes, conduit, cables, wires, fittings, bushing, etc., As separately specified herein.

3. Electrical Ducts and Boxes
Electrical ducts and boxes shall be accessible and have removable covers. Floor ducts and boxes shall have watertight covers. Ducts shall be divided into as many as four separate channels by metal dividers, separately specified herein, to separate wiring and/or cables into groups as follows: Group A: incoming power wiring with associated protective earth wiring (PE). Group B: Output power wiring with associated protective earth wiring (PE). Group C: signal and/or data wiring and/or cables. Group D: X-Ray high-voltage cables, the use of 90 deg. ells is not acceptable. On ceiling duct and wall duct use 45 deg. bends at all corners. All intersecting points in duct to have cross over tunnels supplied and installed by contractor to maintain separation of cables.

4. Conduit
Conduit point - to - point runs shall be as direct as possible. Empty conduit runs used for cables may require pull boxes located along the run. Consult with Philips. A pull wire or cord shall be installed in each conduit run. All conduits which enter duct prior to their termination point must maintain separation from other cables via use of dividers, cross over tunnels, or conduit supplied and installed by contractor from entrance into duct to exit from duct. Do not use flex conduit unless approved by Philips Service.

5. Conductors
All conductors, separately specified, shall be 75°C stranded copper, rung out and marked.

6. Disconnecting Means
A disconnecting means shall be provided as separately specified.

7. Warning Lights and Door Switches
"X-ray on" warning lights and x-ray termination door switches should be provided at all entrances to x-ray rooms as required by code.

8. Dimmer Switches
X-ray room lights should be provided with dimmer switches.

(12.0)

Electrical Notes

1. The contractor will supply & install all breakers, shunt trip and incoming power to the breakers. The exact location of the breakers and shunt trips will be determined by the architect or contractor.

2. The contractor shall supply & install all pull boxes, raceways, conduit runs, stainless steel covers, etc. Conduit/raceways must be free from burrs and sharp edges over its entire length. A Greenlee pull string/measuring tape (part no. 435, or equivalent) shall be provided with conduit runs.

3. All pre - terminated, cut to length cables, will be supplied and installed by Philips. All cables to the breakers, will be supplied and installed by the contractor, subject to local arrangements.

4. Provide and install 50mm diameter chase nipples between adjacent wall boxes.

5. Electrical raceway shall be installed with removable covers. The raceway should be accessible for the entire length. In case of non - accessible floors, walls and ceilings, an adequate number of access hatches should be supplied to enable installation of cabling. Approved conduits may be substituted. All raceways will be designed in a manner that will not allow cables to fall out of the raceway when the covers are removed. In most cases, this will require above - ceiling raceway to be installed with the covers removable from the top. Raceway system as illustrated on this drawing are based upon length of furnished cables. Any changes in routing of raceway system could exceed maximum allowable length of furnished cables. Conduit or raceway above - ceiling must be kept as near to finished ceiling as possible.

6. Conduit sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or National Electrical Codes, whichever govern.

7. Convenience outlets are not illustrated. Their number and location are to be specified by the customer/architect.

8. Electrical contractor shall install ground bond wires at conduit openings within wall boxes as required by national and local electrical codes. Ground bond wires and lugs shall be installed in such a way to prevent the inadvertent contact with the installed Philips equipment to maintain Philips isolated ground scheme and maintain patient safety.

9. Install an insulated stranded ground wire per feeder/conductor size from the Main Disconnect (CB) to the ERB and from the ERB to the Mains 40E Cabinet (per NEC clause 250.146(D)).

10. Philips equipment must be electrically isolated from conduits, raceways, ducts, seismic anchoring, floor anchoring, etc.

(14.1)

PHILIPS

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Project Details
Drawing Number
N-SOU140539 C
Date Drawn: 12/3/2014
Quote: 1-16G1TGR Rev. 1
Order: None

EN

Electrical Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

	Item Number	Description	Detail Sheet
B	CB	480V, 3 phase, Type D 125 A circuit breaker with long-time delay and shunt trip (e.g. Square D HDL36125 or equivalent) . Run power from breaker to "MA", leaving an 8' (2440mm) tail at "MA". See Sheet "ED1" for power quality requirements. Location per local code or owner requirements. (Not shown on plan)	ED1
B	ST	Shunt Trip (emergency off) - Large mushroom-head button on remote control station with contacts to operate feature of "CB" (if required by local code or owner, and mandatory for VA and D.O.D installations). (Not shown on plan)	
B	GE	Local building steel (i.e. structural steel, cold water pipe > 2" (50mm), ground rod). (Not shown on plan)	
B	ERB	Equi-Potential Reference Bar mounted in a 12" (305mm) W x 12" (305mm) H x 4" (105mm) D pull box with hinged cover, surface mounted to the bottom of "WR2" when possible.	ED2
D	MP, ME, MA, MB	19 $\frac{1}{4}$" (490mm) W x 67" (1705mm) H x 4" (105mm) D flanged-edge terminal wall box, surface mounted 75" (1905mm) A.F.F. to top of box. General contractor to cut top and/or bottom of box as required.	ED3
B	CY, WM, VB1, VB2, VUS, VB8, VSP	Grommet opening on "WR3". Approximate location shown is recommended and may be changed - verify relocation with local Philips Service.	
D	MQT	12" (305mm) W x 12" (305mm) L x 5" (130mm) D floor box, under the floor with a 4" (105mm) core drill up to the underside of the Maquet floor plate. Floor box to be confirmed with Maquet representative (box size may vary depending on site conditions).	
B	SP	18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, flush mounted with removable screw-type split cover plate. Contractor to provide 12 $\frac{5}{8}$" (325mm) W x 7 $\frac{7}{8}$" (200mm) H x 1 $\frac{5}{16}$" (35mm) D secondary cover for cables from ceiling inlet to ceiling box for infection control. Coordinate secondary cover with local Philips Service.	
B	TV1, VB3, VB4, VB9	18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, located above finished ceiling. Box to be located near the 3rd party boom(s) with the Philips monitors, coordinate locally. "VB3" and "VB4" to be mounted on monitor boom "E". "VB9" to be mounted on FlexVision monitor. A cable spool is provided to drape the 26.24' (8m) cable connecting the "VB9" to CX50 unit.	
B	WR1, WR2	10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR1" is at finished floor. "WR2" is at 75" (1905mm) A.F.F. to bottom of raceway.	ED3
B	WR3	10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR3" is at finished floor. "WR3" may need to be cut at the location of the "CY" connection box.	ED3
B	PHY	Stub up point for physiological monitoring cables. Run conduit to customer's physiological console location. Contact manufacturer for power requirements, etc.	
B	ATY	Auxiliary Box - 6" (155mm) W x 6" (155mm) H x 4" (105mm) D wall box, flush mounted 70" (1780mm) A.F.F. to the bottom of the box with removable screw-type cover plate. Height and location shown are recommended and may be changed - verify height and relocation with local Philips Service.	
B		120V/20A dedicated duplex outlet for DBS (Dose Aware).	
B	DBS	4" (105mm) W x 4" (105mm) H x 4" (105mm) D pull box with removable screw-type cover plate, flush mounted. Exact height to be determined. Location shown is recommended and may be changed - verify relocation with local Philips Service.	

Electrical Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

	Item Number	Description	Detail Sheet
B	WL	Warning Light - Provide a surface or flush mounted light fixture above door to indicate when X-ray is on, if required by local code or physicist of record. (Not shown on plan)	ED3
B	DS	Door Switch - 120V/5A switch limited to open when door is open. Mount in upper corner on strike side of main entry door(s) (Cooper no. 1665 or equivalent), if required by local code or physicist of record. See Sheet "ED2" diagram for connection details. (Not shown on plan)	ED3
B	N1	RJ45 type Ethernet 10/100/1000 Mbit network connector with access to customer's network. Locate within 10' (3050mm) of network card. Network fiber optic and Ethernet cabling, connectors, wall boxes, patch panels, etc. are the responsibility of the purchaser. Philips assumes no responsibility for procurement, installation, or maintenance of these components.	
B	N2	RJ45 type Ethernet 10/100/1000 Mbit network connector. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity.	N1
B	S	120V/20A dedicated duplex outlet for service in the equipment room. (Not shown on plan)	
B		120V/20A dedicated duplex outlet for each of the Video Connection Boxes and Interventional Hardware. Verify electrical requirements for customer provided equipment.	
B	VB7	4" (105mm) W x 4" (105mm) H x 4" (105mm) D ceiling box with removable screw-type cover plate, located above finished ceiling. Location shown is recommended and may be changed - verify relocation with local Philips Service. "VB7" to be located on ceiling boom "C".	
D	PSU	Stationary Transformer Unit.	
B		120V/20A dedicated duplex outlet for IVUS (Volcano Intravascular Ultrasound).	
B	XPD, SV, VB5, VB6	18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, located above finished ceiling. Box to be located near the 3rd party ceiling boom "A", coordinate locally.Location shown is recommended and may be changed - verify relocation with local Philips Service. A cable spool is provided to drape the 26.24' (8m) cable to the "XPD" pedestal. "VB5" and "VB6" to be mounted on equipment boom "A".	
B		120V/20A dedicated duplex outlet for Pedestal Injector. Located near ceiling boom "A".	
B		120V/20A dedicated duplex outlet for VSP (Video Splitter).	
D	UPS	UPS - 25 kVA.	ED4
D	BC	Battery Cabinet - 25 kVA.	ED4
D	UTS	Universal Transfer Switch.	ED4
B	RSP	Remote Status Panel (wall mounted in the control area) - 4" (105mm) W x 4" (105mm) H x 4" (105mm) D pull box with removable screw-type cover plate, flush mounted. Exact height to be determined. Location shown is recommended and may be changed - verify relocation with local Philips Service.	ED4
B		120V/20A dedicated duplex outlet for RSP (Remote Status Panel)	
D	SWC	Knife switch. On/off 3 phase switch rate 480V 100 A with auxiliary contacts rated 1 phase 120V 4 A. Surface mounted 50" (1270mm) above finished floor to bottom of box.	ED4
B		120V/20A dedicated duplex outlet for "TV2"	
B	TV2	6" (155mm) W x 6" (155mm) H x 4" (105mm) D ceiling box with removable screw-type cover plate, located above finished ceiling. Location shown is recommended and may be changed - verify relocation with local Philips. For 3rd party monitor on ceiling boom "B".	

See E1 - E4 sheets for conduit and raceway requirements.

PHILIPS

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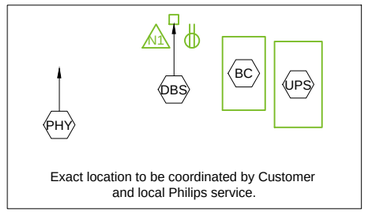
EL

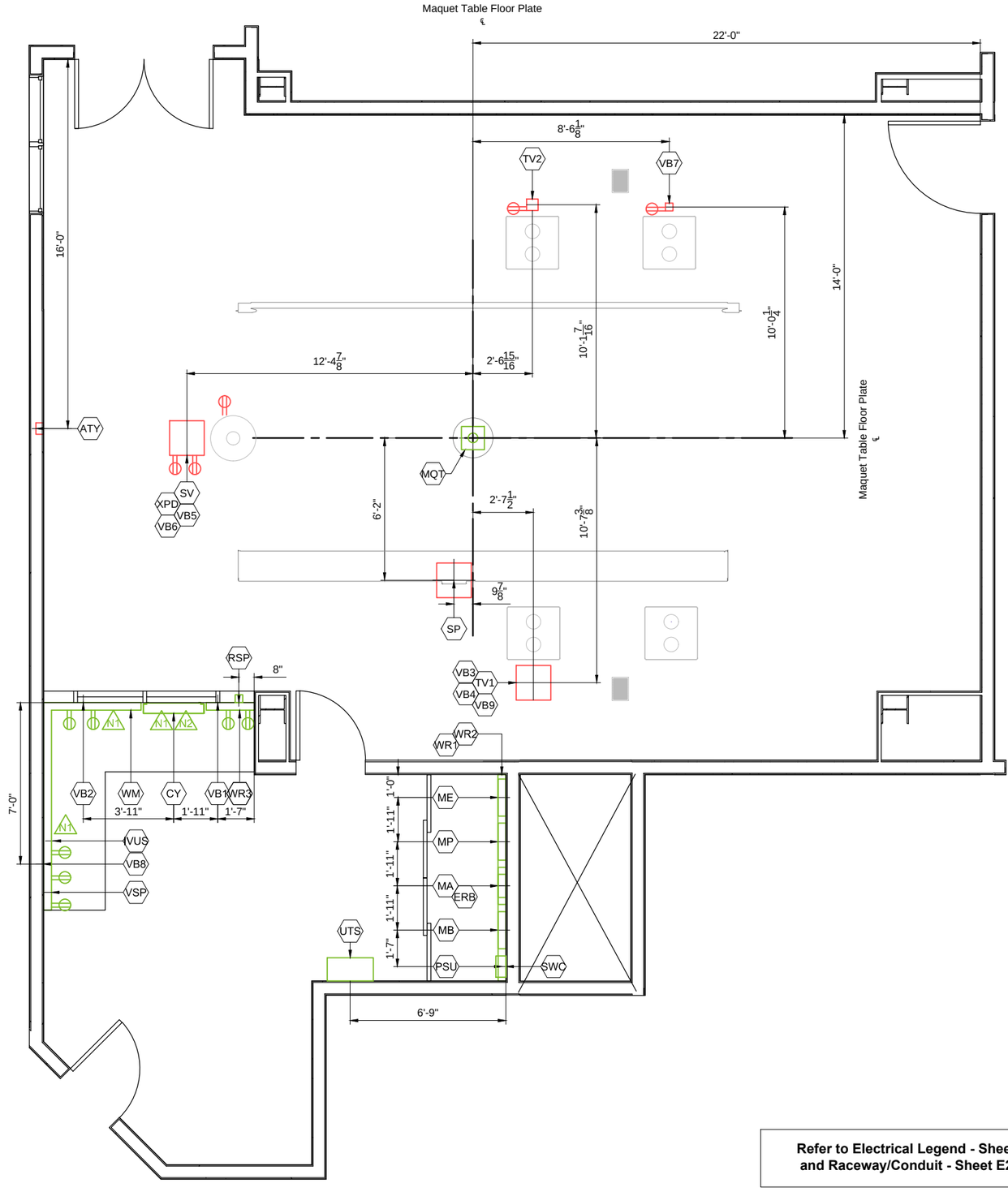
Electrical Layout

Required Unistrut Height: 10' - 2 3/8", +0" / -3/8" (3110mm, +0mm / -10mm)
Unistrut Height measured from finished floor to bottom of Unistrut.

0 1' 2' 4' 8'
0 .5m 1m 2m



Exact location to be coordinated by Customer and local Philips service.



Refer to Electrical Legend - Sheet EL and Raceway/Conduit - Sheet E2-E4

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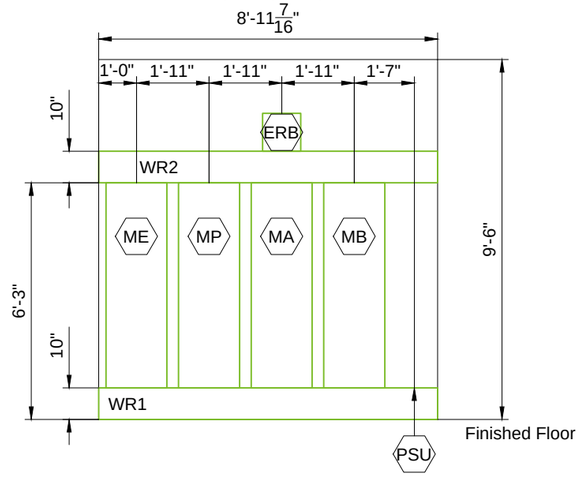
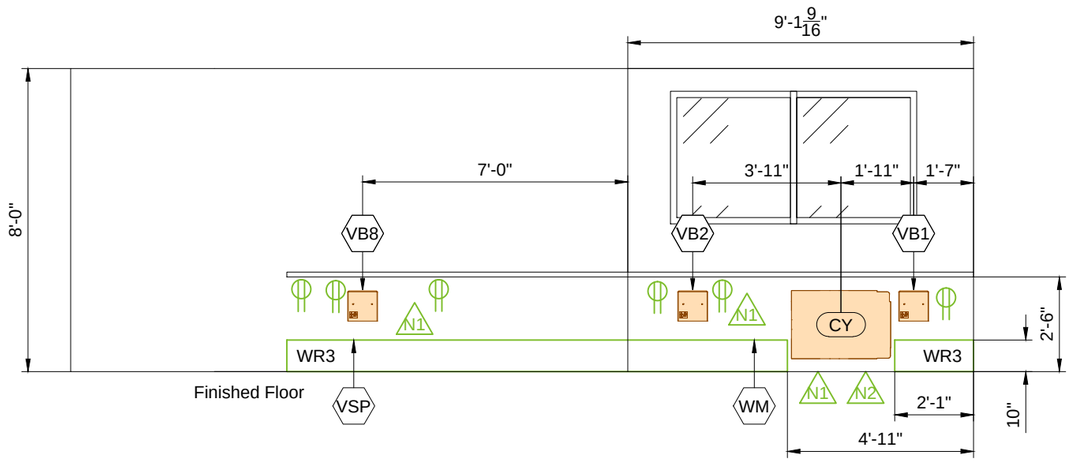
E1

Equipment Closet
(Site Specific)



Control Room
(Site Specific)



Note: The use of 90 degree ells is not acceptable. Use 45 degree bends at all raceway corners. For conduit runs, use the minimum bending radius specific to the conduit diameter. The use of crossover tunnels at all applicable locations is required. The above mentioned recommendations will help to ensure the integrity of the cables and fiber optic runs.

*** Countertop Height Guide:**
30" (765mm) for standard seated height.
36" (915mm) for standard standing height.
*** Ensure that the wall junction boxes are mounted perpendicular to the floor.**
*** Verify exact ceiling height of Equipment and Control Room Area.**
*** Architect to coordinate with end users/technicians to determine final placement of control desk components prior to installation in order to avoid rework. Architect to coordinate with Philips Project Manager to reflect final placement on Philips drawings.**

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E2

Conduit Required

General Notes

1. All conduit runs must take most direct route point to point.
2. All conduit runs must have a pull string.

A Conduit supplied/installed by contractor - Philips cables installed by Philips
B Conduit supplied/installed by contractor - Philips cables installed by contractor
C Conduits and cables supplied and installed by contractor
D Conduit existing - cables supplied and installed by Philips
E Conduit existing - cables supplied by Philips and installed by contractor
F Conduit existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* **P** Power (AC), **D** Power (DC), **G** Ground, **S** Signal, **H** High Tension, **C** Cooling Hose, **A** Air Supply Hose

	Conduit Run No.	Conduit From	Conduit To	Conduit Quantity	Cable Type (*)	Minimum Conduit Size	Maximum Conduit Length	Special Requirements
C	1	Power Panel	CB	1	P	Per N.E.C.	Per N.E.C.	See conductor/ground size chart.
C	2	CB	MA	1	P	2 1/2"	Per N.E.C.	
C	3	CB	ST	1	P	3/4"	50'	
C	4	ERB	GE	1	P	3/4"	6'	
C	5	ERB	Room Outlets	1	P	3/4"	-	See Sheet "ED2" for details.
C	6	MA	WL	1	P	3/4"	55'	
C	7	ATY	DS	1	S	3/4"	55'	
A	8	ATY	MA	1	S	2 1/2"	41'	
A	9	ATY	TV1	1	S	3/4"	65'	
A	10	SP	ME	2	C	1 1/2"	25'	Tube Cooling Hoses.
A	11	SP	ME	1	P/G	1 1/2"	25'	
A	12	SP	ME	1	S	1"	25'	
A	13	SP	ME	1	H	2 1/2"	25'	High Tension Cables.
A	14	SP	MP	1	P/G	2"	25'	
A	15	SP	MP	1	S	2"	25'	
A	16	SP	MA	1	S	2"	25'	
A	17	MQT	WR1	4	-	3/4"	-	Maximum length of cable supplied by the table vendor is 82'
A	18	PSU	WR1	2	-	3/4"	-	Conduits should be electrically isolated from PSU using Liquid Tight conduit or similar.
A	19	TV1	MA	1	P	1 1/2"	52'	
A	20	TV1	MA	1	S	2 1/2"	52'	
A	21	TV1	MP	1	S	2"	52'	
A	22	TV1	MB	1	S	1 1/2"	52'	For FlexVision XL.
A	23	TV1	WM	1	S	3/4"	65'	For Intercom.
A	24	CY	MP	1	S	2"	50'	
A	25	CY	MA	1	P/G	1 1/2"	55'	
A	26	CY	MA	1	S	2 1/2"	55'	
A	27	MA	WM	1	S	1"	82'	
A	28	XPD	MA	1	P	3/4"	52'	
A	29	XPD	MA	1	S	2"	52'	
A	30	XPD	MP	1	S	2"	52'	

Conduit Required

General Notes

1. All conduit runs must take most direct route point to point.
2. All conduit runs must have a pull string.

A Conduit supplied/installed by contractor - Philips cables installed by Philips
B Conduit supplied/installed by contractor - Philips cables installed by contractor
C Conduits and cables supplied and installed by contractor
D Conduit existing - cables supplied and installed by Philips
E Conduit existing - cables supplied by Philips and installed by contractor
F Conduit existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* **P** Power (AC), **D** Power (DC), **G** Ground, **S** Signal, **H** High Tension, **C** Cooling Hose, **A** Air Supply Hose

	Conduit Run No.	Conduit From	Conduit To	Conduit Quantity	Cable Type (*)	Minimum Conduit Size	Maximum Conduit Length	Special Requirements
G	31	TV1	WR3	2	S	1 1/2"	-	For optional equipment (IE. Physio Monitor/ Slave Monitor).
G	32	PHY	XPD	1	S	2 1/2"	-	
G	33	PHY	Physio Monitor	1	S	2"	33'	Optional for remote location.
G	34	Third Party	Third Party	-	-	-	-	For Injector, Patient Monitoring, Video Networking, etc.
C	35	Third Party	ERB	-	G	-	-	For Injector, Patient Monitoring, Video Networking, etc.
A	36	VB1	MB	1	S	1"	82'	
A	37	VB2	MB	1	S	1"	82'	
A	38	VB5	MB	1	S	1"	82'	
A	39	VB6	MB	1	S	1"	82'	
A	40	VB7	MB	1	S	1"	82'	
A	41	VB8	MB	1	S	1"	82'	
A	42	VB5	CY	1	S	1/2"	91'	
A	43	VB6	CY	1	S	1/2"	91'	
A	44	VB7	CY	1	S	1/2"	91'	
G	45	VUS	SV	1	S	3"	75'	
C	46	UPS	ST	1	P	3/4"	150'	
C	47	MA	UTS	1	P	2"	48'	See ED sheets for longer lengths
C	48	MA	UTS	1	P	2"	48'	
C	49	MA	UTS	1	P	2"	48'	
C	50	MA	SWC	1	P	2"	48'	
C	51	MA	UTS	1	P	3/4"	48'	
C	52	UTS	UPS	1	P	2"	48'	
C	53	SWC	UPS	1	P	2"	48'	
C	54	UTS	SWC	1	P	2"	15'	Flex Conduit
C	55	UTS	SWC	1	P	2"	15'	Flex Conduit
C	56	UPS	BC	1	P	1 1/2"	18'	
C	57	UPS	BC	1	P	1 1/2"	18'	
B	58	RSP	UPS	1	P	1 1/2"	250'	Remote Status Panel.
B	59	UPC	UPS	1	P	1"	15'	
B	60	RSP	UPS	1	P	1 1/2"	250'	Remote Status Panel.

PHILIPS

Project
Allura FD20 FlexMove Maquet

VA Hospital
Little Rock, AR
-2F-206

Philips Contacts
Project Manager: Paul Niehaus
Contact Number: (501) 658-9318
Email: paul.niehaus@philips.com

Drawn By: Laura Phillips

Project Details
Drawing Number
N-SOU140539 C
Date Drawn: 12/3/2014
Quote: 1-16G1TGR Rev. 1
Order: None

E3

8.20.14

Conduit Required

General Notes

1. All conduit runs must take most direct route point to point.
2. All conduit runs must have a pull string.

A Conduit supplied/installed by contractor - Philips cables installed by Philips
B Conduit supplied/installed by contractor - Philips cables installed by contractor
C Conduits and cables supplied and installed by contractor
D Conduit existing - cables supplied and installed by Philips
E Conduit existing - cables supplied by Philips and installed by contractor
F Conduit existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* **P** Power (AC)
D Power (DC)
G Ground
S Signal
H High Tension
C Cooling Hose
A Air Supply Hose

	Conduit Run No.	Conduit From	Conduit To	Conduit Quantity	Cable Type (*)	Minimum Conduit Size	Maximum Conduit Length	Special Requirements
C	61	TV2	MB	1	S	2 1/2"	55'	3rd party monitor on ceiling boom "B".
A	62	WR3	DBS	1	S	2"	-	

Conduit Required

General Notes

1. All conduit runs must take most direct route point to point.
2. All conduit runs must have a pull string.

A Conduit supplied/installed by contractor - Philips cables installed by Philips
B Conduit supplied/installed by contractor - Philips cables installed by contractor
C Conduits and cables supplied and installed by contractor
D Conduit existing - cables supplied and installed by Philips
E Conduit existing - cables supplied by Philips and installed by contractor
F Conduit existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* **P** Power (AC)
D Power (DC)
G Ground
S Signal
H High Tension
C Cooling Hose
A Air Supply Hose

	Conduit Run No.	Conduit From	Conduit To	Conduit Quantity	Cable Type (*)	Minimum Conduit Size	Maximum Conduit Length	Special Requirements

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E4

8.20.14

Power Quality Requirements (Mains 40E Cabinet)

Power Output	100kW
Supply Configuration	3 phase, identical 3 wire power and isolated unity ground with bonding conductor, delta (preferred) or wye
Nominal Line Voltage	480 VAC, 60 Hz
Line Voltage Variation	Voltage Variations are never to exceed ±10% when measured using 10 minute mean RMS values with a measurement window of 1 week. At least 95% of all measured 10 minute mean RMS values shall be within ±5% of the configured nominal voltage.
Line Voltage Balance	2% maximum of nominal voltage between phases
Frequency Variation	± 1.0 Hz
Voltage Surges	To 110% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max.
Voltage Sags	To 90% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max.
Line Impulses	1000 VPK above phase-neutral RMS absolute maximum. No more than 1 impulse per hour to exceed 500 VPK.
Neutral-Ground Voltage	2.0 volts maximum RMS value
Neutral-Ground Impulses	No more than 1 per hour that exceeds 25 volts and 1 Mjoule
High Frequency Noise	3.0 volts steady-state maximum. Over 3.0 volts permitted for 100 msec. maximum, 1 per hour max.
Grounded Conductor Impedance	0.1 Ohms @ 60 hz. maximum

Branch Circuit and Wire Gauge Requirements (Mains 40E Cabinet)

Branch Power	225 kVA
Max. Standby Current	8 A @ 3mA, 100 kVP continuous
Circuit Breaker (CB)	3 phase, Type D 125 A with long-time delay and shunt trip
****Conductor/Ground Size Chart: Engineer of record responsible for calculating conductor/ground sizes. Recommended conductor/ground sizes for 1% impedance of supply conductors to circuit breaker (CB). Based on 20°C copper conductors:**	
Nominal Line Voltage (in VAC) (60 Hz)	**480**
1/0 AWG	76.92ft
2/0 AWG	96.74ft
3/0 AWG	121.95ft
4/0 AWG	155.34ft
250 KCM	181.82ft
300 KCM	217.98ft
400 KCM	294.12ft
Max. Instantaneous Power (1000mA @ 100 kVP)	249 kVA
Max. Inst. Current @ CB (RMS value over half-cycle)	300 A
Max. Phase-phase impedance @ CRC	0.465 Ω
Max. Load Voltage Drop @ CB (RMS value over half-cycle)	139.5 V
Output Voltage Mains 40E Cabinet	480 VAC ± 10%
Max. Inst. Current @ Mains 40E Cabinet output (RM value over half-cycle)	300 A
Max Phase-phase impedance @ Mains 40E Cabinet CRC input terminal	0.545 Ω
Max. Load Voltage Drop @ Mains 40E Cabinet output	163.5 V

CB

(14.2)

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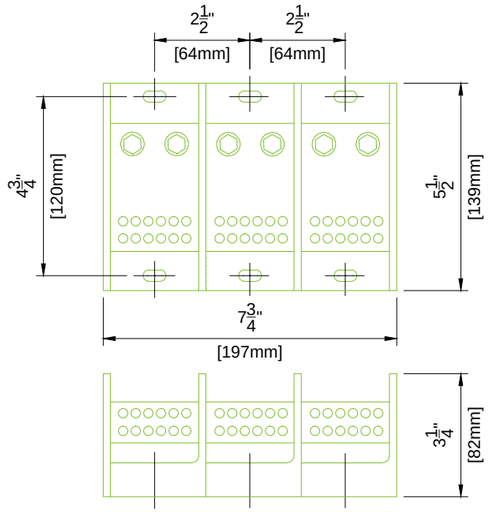
Order: None

ED1

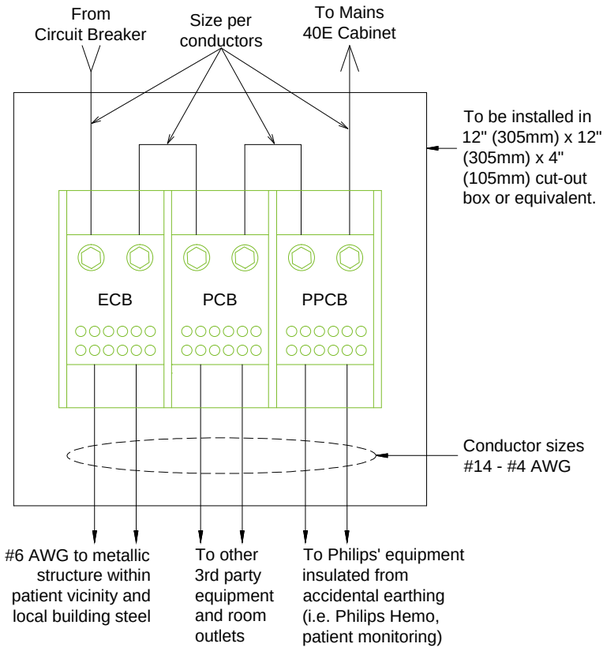


1. Furnished and installed by Contractor
2. Purchase from local Ferraz Shawmut distributor, http://www.ferrazshawmutsales.com/index.htm Catalog #69143.
3. 62000 - 69000 Series Blocks http://www.ferrazshawmutsales.com/pdfs/PDB-LARGE.pdf

ERB

Detail - Equi-Potential Reference Bar Application

(Not to scale)



Invasive Procedures

This equipment may be used for invasive procedures; therefore, the area to be installed is classified as critical care area per NFPA-99 and NFPA-70 (NEC). These documents specify maximum touch voltages and ground impedance in these areas.

Test performed by GSSNA service require that these specifications are met by the GSSNA equipment. It is the facility's responsibility to ensure that these specifications are met by the wall outlet, facility structure, and other equipment not installed by GSSNA.

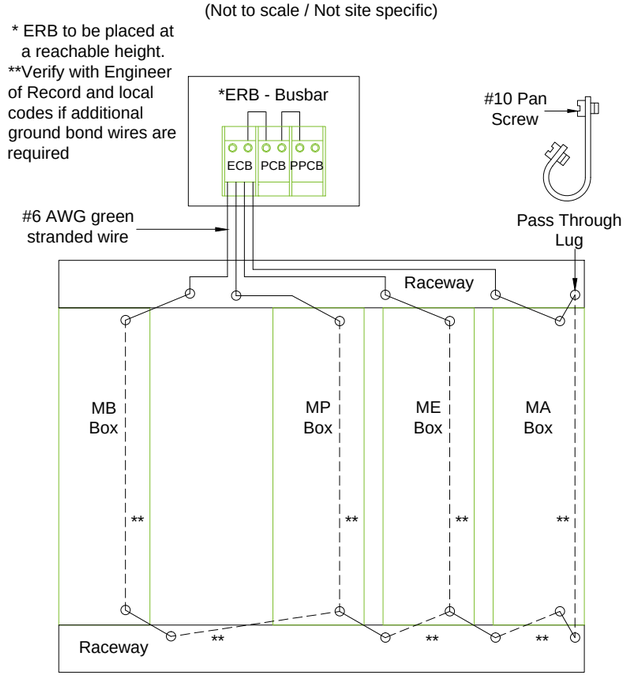
The GSSNA specified "Equi-Potential Reference Bar (ERB)" serves as a ground reference for GSSNA equipment. It may also serve as the "Reference Grounding Point" of the room as defined in NFPA 99-3.3.140 for non-Philips Healthcare equipment.

Equi-Potential Reference Bar (ERB)
A) Equip-Potential Conductor Bar (ECB)
B) Protective Conductor Bar (PCB)
C) Philips Protective Conductor Bar (PPCB)

(14.0)

Detail - Grounding

(Not to scale / Not site specific)



(14.1)

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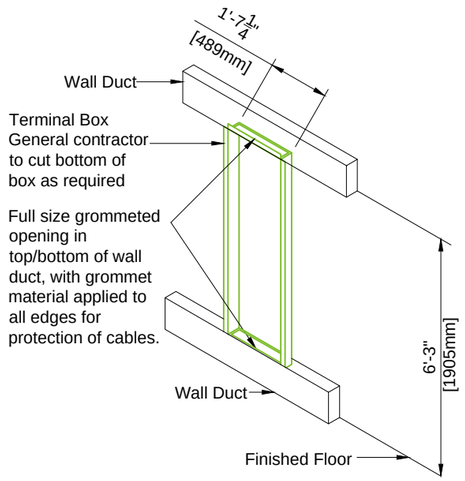
ED2

Detail - Wall Box Mounting
(Not to scale)



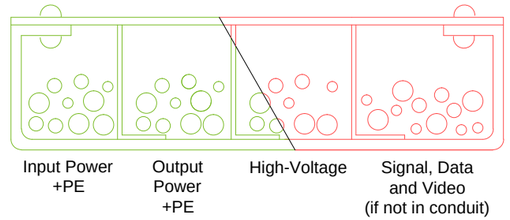
ME MP MA MB

(12.0)

Detail - Cable Trough Divisions
(Not to scale)

Troughs or ducts must be separated by metal barriers into four sections:

1. Input Power wires and associated PE.
2. Output Power wires and associated PE.
3. High-Voltage wires to X-Ray stands.
4. Signal, data and video cables.

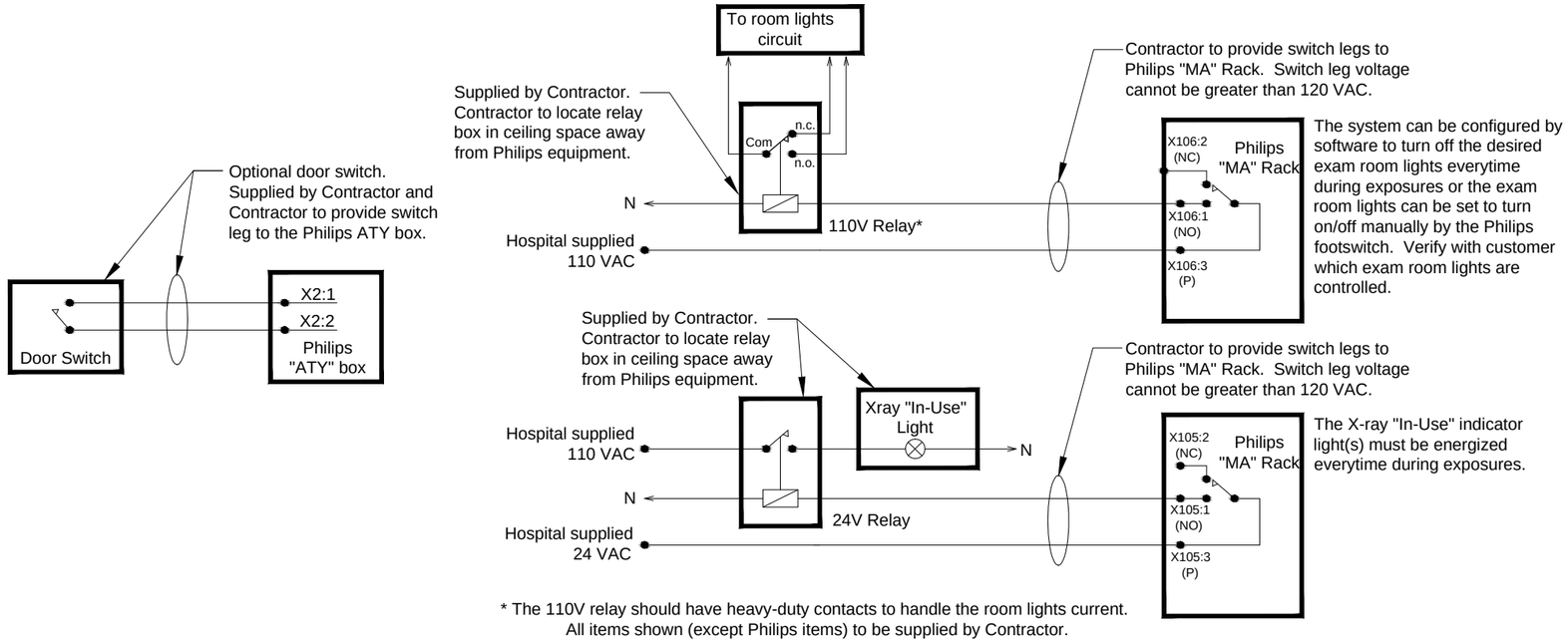


5. It is important that all cables are placed in the appropriate trough and at not given point do any cables from one division cross cables from another. Trough separation must be continuous from the beginning.
6. Trough or ducts: steel with steel dividers grounded to building ground.
7. Contractor to provide cable restraints in all troughs.

WR1 WR2 WR3

(12.0)

Diagram - Typical Connection of X-Ray In-Use Light, Exam Room Lights, & Door Switch



* The 110V relay should have heavy-duty contacts to handle the room lights current.
All items shown (except Philips items) to be supplied by Contractor.

WL DS

(14.0)

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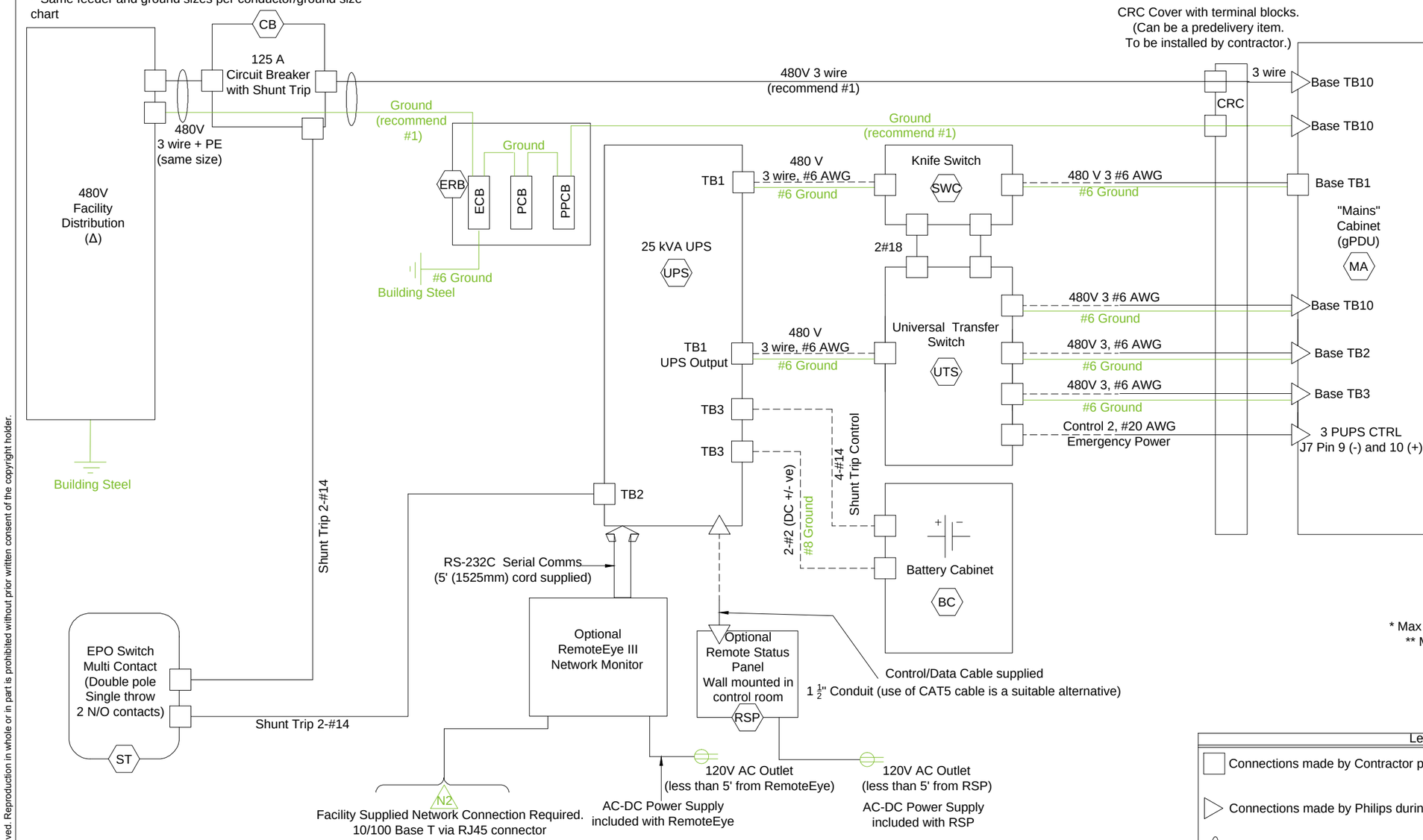
ED3

Wiring and circuit sizes from source supply must meet Philips regulation requirements and must be determined by contractor to meet building conditions and local codes.
3 Phase, + PE (Protective Earth).
**Same feeder and ground sizes per conductor/ground size chart



From/To (each run)	Conductor Size per Phase AWG	Max Length (end to end)
MA to UTS or SWC	#6	50'-0"
	#5	63'-0"
	#4*	80'-0"
UPS to UTS or SWC	#6	50'-0"
	#4	80'-0"
	#2	127'-0"
	#1 **	161'-0"
UPS to BC	#2	20'-0"

* Max size that fits into terminal blocks in MA cabinet
** Max size that fits into terminal blocks in UPS

Note:
All power (system and shunt trip) wires, ground (system and bond) wires, breakers, and splitters are provided and installed by contractor.

Size of the wires is based on conduit run length shown on E3 sheet, the size of the wire will need to be increased for longer runs.

Conductors, destinations, and number of conduit runs will vary from system to system. Consult individual site plans for detailed conduit schedules.

Contact Philips Zone Power Specialist for detailed wiring diagram.

Legend

- Connections made by Contractor prior to Start-Up
- Connections made by Philips during Start-Up
- Feed Conductors run together with Ground in conduit
- Flex, Liquid tight, etc.
- Conduit, rigid EMT, etc.

Diagram - Standard Connection - 25 kVA UPS with UTS

(14.5)

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Quote: 1-16G1TGR Rev. 1
Order: None

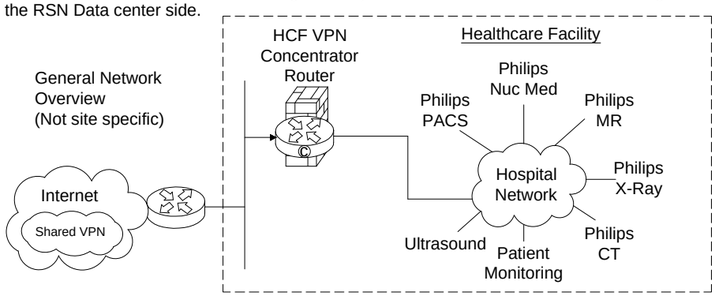
ED4

Philips Healthcare Remote Services Network (RSN)

Secure broadband connection required for Philips remote technical support, diagnostics, and applications assistance

Broadband Site-to-Site Connectivity (Preferred)
This connectivity method is designed for customers who prefer a connection from the RSN Data Center to the Health Care Facility (HCF) utilizing their existing VPN equipment.

Connectivity Details:
- A Site-to-Site connection from the RSN data center's Cisco router will be established to the HCF's VPN concentrator.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE as standard, but alternative standards are also available, such as AES, MD5, SHA, Security Association lifetime and Encryption Mode.
- Every system that we will be servicing remotely will have a static NAT IP that we configure on the RSN Data center side.

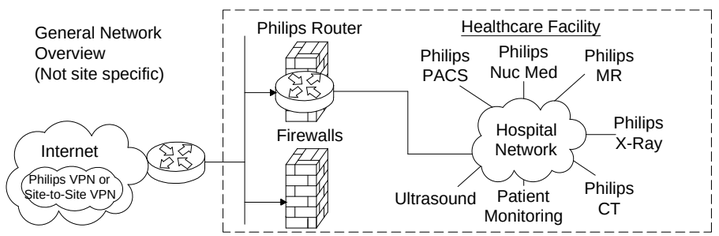


Action Required by Hospital:
- Review and approve connection details.
- Complete appropriate Site Checklist.
- Configure and allow Site-to-Site access prior to setting up connectivity depending on the access criteria that the HCF decides to implement (ex: Source IP filtering, destination IP filtering, NAT assignment, etc.).
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to the designed IP provided by Philips.

Broadband Router Installed at Health Care Facility
This connectivity method is designed for customers who have a dedicated high speed connection for Philips equipment.

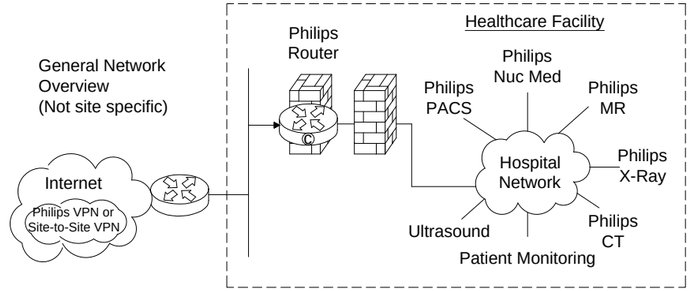
Connectivity Details:
- An RSN Cisco 1711 or 1712 router will be preconfigured and installed at the HCF by Philips in conjunction with the HCF IT representative.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE and will be established from the RSN-DC and terminated at the RSN Router on-site.
- One to One NAT is used to limit access to Philips equipment only.
- Router Config and IP auditing is enabled for Customer IT to view via website 24/7.
- Dedicated DSL connections are also supported.

Option 1: Parallel to HCF Firewall Connectivity Method
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site utilizing all the security features provided and managed by Philips.



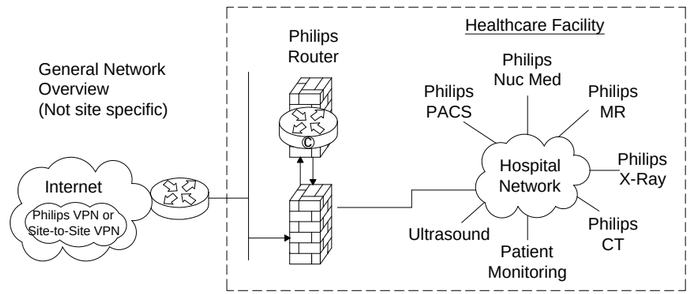
Action Required by Hospital:
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to the internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.

Option 2: Back End Connected to the HCF Firewall Connectivity Method
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site by setting up an IP-Based policy allowing access thru existing HCF Firewall to Philips equipment.



Action Required by Hospital:
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

Option 3: Router Installed Inside the HCF's DZM
This connectivity method is designed for customers who prefer the RSN Router installed inside and existing, or new DMZ, allowing access to Philips equipment.



Action Required by Hospital:
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface IPSec protocol communication by opening protocol 500, 50, 51, 47 and port 23 + TACACS. Traffic should be between external IP Address located on the Philips router and the RSN Data center IP address 192.68.48/24 and IP address AOSN TACAS.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

(12.0)

PHILIPS

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Allura FD20 FlexMove Maquet

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Drawn By: Laura Phillips

Project Details
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N-SOU140539 C
Date Drawn: 12/3/2014
Quote: 1-16G1TGR Rev. 1
Order: None

N1

System Network Information

IMPORTANT NOTE: *It is the customer's responsibility to coordinate with the local Philips Engineer to provide ALL required network information and install ALL required network cabling & drops according to Philips specifications PRIOR to the scheduled installation start date. Failure to do so may delay system installation and jeopardize the customer hand over date.*

Allura	IP Sec [ ]yes [ ]no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title:	
Port Number (5101):	

XtraVision	IP Sec [ ]yes [ ]no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title XtraVision:	
Port Number (3110):	
AE Title for X-Ray Mod:	
IP for X-Ray Modality:	

EP Navigator	IP Sec [ ]yes [ ]no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title:	
Port Number:	

View Forum	IP Sec [ ]yes [ ]no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title:	
Port Number:	

XperIM	IP Sec [ ]yes [ ]no		
	Location 1	Location 2	Location3
Physical Location:			
Hostname:			
MAC Address:			
IP Address			
Netmask:			
Gateway:			
AE Title:			
Port Number (3010):			

Remote Software Installation (RPS)	
Enable Distribution:	[ ] yes [ ] no
Enable Installation:	[ ] yes [ ] no

Dicom Printer				
	Location 1	Location 2	Location3	Location 4
Physical Location:				
Hostname:				
IP Address				
AE Title:				
Port Number :				

PACS	Physical Location:				
	Store/ Import 1	Store/ Import 2	Store/ Export	Query/ Retrieve	Storage/ Commit
Hostname:					
IP Address					
AE Title:					
Port Number :					

PACS	Physical Location:				
	Store/ Import 1	Store/ Import 2	Store/ Export	Query/ Retrieve	Storage/ Commit
Hostname:					
IP Address					
AE Title:					
Port Number :					

Audit Trail	
Physical Location:	
Hostname:	
IP Address	
AE Title:	
Port Number :	

Time Synchronization	
Physical Location:	
Server Name:	

RIS	**Physical Location:**		
	Basic Local RIS	WLM	MPPS
Hostname:			
IP Address:			
AE Title:			
Max PDU Size:	16384 or		
Port Number:		[ ] yes [ ] no	[ ] yes [ ] no
Secure Node:		[ ] yes [ ] no	[ ] yes [ ] no
Encryption:			
Certificate Name:			
PPSM IHE Compatible:			[ ] yes [ ] no

Time Synchronization	
Allura Xper:	20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net)
Allura CV20:	20/21(ftp), 80(http), 4440(fsf)
XtraVision:	20/21(ftp), 80(http), 443(https), 5660(ist/ice), 5900(vnc), 9905(lots)
EP Navigator (R3):	20/21(ftp), 443(https), 5660(ist/ice), 9055(lots)
EP Cockpit (R1.2):	20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net)
CX50:	
Xper IM:	
View Forum	

Hospital Network			
	M2M Server (PRS)	Proxy	ePO Server (PRS)
Scheme (https):			
IP Address (192.68.49.50):			
Portnumber (443):			
Use Proxy Server:	[ ] yes [ ] no		
IP Address			
Port Number:			
User Name:			
Password:			

(13.0)

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Order: None

N2

Instructions

This form is to be used by Project Manager, Contractor and Service Engineer.

Information is used to develop and determine site ready date.

Items listed are go/no go items for delivery unless noted as delay only items.

Items identified with *** as delayed items must be completed after hours or on weekend. These items cannot be accomplished while installation is in progress. Also, these items must be completed within two days of installation start or they may stop installation.

Site Readiness Checklist

Modality: _____

Order: _____

Site Name: _____

Location: _____

Contact Name: _____

Contact Phone Number _____

- ☐ Customer site preparation verified in general against the Philips final planning drawings.
- ☐ Walls finished including painting.
- ☐ Doors installed.
- ☐ Floor leveled according to Philips drawings and specifications.
- ☐ Floors are tiled/covered finished. Flooring is covered with protective covering (scratch protection).
- ☐ Ceiling lights installed.
- ☐ Cable conduit and ductwork installed and clean. Position checked. Duct covers in place but not finally closed. Cable opening are clear, without sharp edges. Pull strings in conduit. Installation per Philips specifications.
- ☐ HVAC environmental equipment installed and working according to Philips specifications.
- ☐ Ceiling installation completed.
- ☐ Electrical preparation according to Philips specifications.
- ☐ All network cabling, drops installed according to Philips specifications (including hardcopy cameras).
- ☐ All pre-cabling identified on Philips drawings has been installed.
- ☐ Pre-move survey completed - Delivery route identified.
- ☐ Lead glass installed ***.
- ☐ X-Ray warning lights installed ***.
- ☐ Dedicated phone line for modem use***.
- ☐ Room has been cleaned ***.
- ☐ Cabinets and casework installed (with insulation and building steel) according Philips specifications***.
- ☐ RSN survey completed and submitted
- ☐ Philips RSN Champion contacted.

Approved for Delivery

Project Manager Date

Service Engineer Date

Items Specific for the Cardio/Vascular Modality

- ☐ Unistrut installed and level according to Philips specifications.
- ☐ Floor plates installed and level according to Philips specifications.
- ☐ All cover plates have holes punched and nipples required and bushings installed.
- ☐ Emergency power requirements installed according to Philips specifications.
- ☐ Building steel ground installed to ECB section of ERB.
- ☐ Non-Philips provided room electrical equipment grounds installed to PCB middle section of ERB.
- ☐ Conduit lengths measured according to Philips specifications. Note: Specifications is from source box to destination box (not just conduit run length).
- ☐ Routing of ductwork and conduits must be installed according to Philips specifications.

PHILIPS

Project
Allura FD20 FlexMove Maquet

VA Hospital
Little Rock, AR
-2F-206

Philips Contacts
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Drawn By: Laura Phillips

Project Details
Drawing Number
N-SOU140539 C
Date Drawn: 12/3/2014
Quote: 1-16G1TGR Rev. 1
Order: None

CHK